



# VHF-UHF Digest

the official publication of the Worldwide TV-FM DX Association

DECEMBER 1977

IN THIS ISSUE:

**A CHANGE  
IS COMING!**

## Part Two:



## FM IN YOUR CAR

# From The Staff:

WTFDA Headquarters, P.O. Box 202, Whiting, Indiana 46394

**CONVENTION PROGRESS...** As we go to press, still only one bid for the WTFDA 1978 convention site has been received (for Louisville KY). To give any prospective bidders one final chance to submit their offers in writing, the deadline has been further extended to January 20, 1978, the submission deadline for material appearing in the February VUD. All bids received will be printed in that issue for voting; if only the current bid is at hand, Ted Fleischaker and the Louisville crew will be declared the 1978 convention hosts. If you've considered but delayed sending in a bid, this is your final chance for action!

**REGIONAL GET-TOGETHER...** A last-minute note received from JZ reminds all DXers that there will be a DX gathering at the home of IRCAN and NRCer Paul Mount in Teaneck, New Jersey on January 15, beginning at 11 a.m. Activities will include general talk, meeting new and old DXers and displays of QSL cards and receivers brought by those attending. A buffet-style meal will be served in the early afternoon. For more information, you can call (201) 836-1137; be sure to let Paul know by phone if you plan to attend.

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## EDITOR'S NOTE...

After an enjoyable and successful two years as editor of this magazine, I have decided to relinquish this position to someone who is more capable of producing timely issues while at the same time maintaining professional standards. The unanimous choice for this position by WTFDA's Board of Directors, including your editor, is CCI editor Frank E. Aden Jr., 1535 NW Ithaca Avenue, Bend OR 97701, to whom all material for the February 1978 Digest should be sent. Next month's VUD--our heralded Tenth Anniversary Issue--will be my last.

This decision was a difficult one, but I make it with only minor regrets. My time problems have increased with each passing month to where I'm no longer capable of devoting adequate time to my WTFDA position. It is my utmost hope and belief that Frank will maintain high VUD standards as well as timeliness in his new post; he deserves the best.

More will be said in a final farewell to be printed next month. For now, I offer sincere thanks to those of you who offered assistance and support over the years.

CLARKE INGRAM

## TABLE OF CONTENTS

MAILBOX: Covington Comments on Sawatzky Specs.....	3
FCC FM NEWS: Does CBOB-FM Brockville Exist?.....	4
QSL CORNER: All FM Verifications This Month.....	7
FM IN YOUR CAR: Part Two--The Receiver.....	8
VHF UTILITY DX: Promising Prospects for F2 DX.....	14
PHOTO-NEWS: A Rare Shot of Virgin Islands TV.....	16
MEMORABILIA: Bill Draeb's Classic DX Catches.....	18
WESTERN TV DX: Remember, A New Editor is Needed.....	19
EASTERN TV DX: French "Test Patterns and Garbage"?.....	24
TIPS FOR TV DXERS: Random Notes from Morrie Goldman.....	27
CCI: Volunteers Needed for New TV Station Guide.....	28
FM CHANGES: Gleaned from World Radio-TV Handbook.....	30



# MAILBOX

John Zondlo  
6617 Maryland  
Hammond, IN 46323  
(219) 844-8694  
Deadline: 15th

## New Members:

Adam Horniak  
Edward R. Sirovy  
Larry Vehorn

182 Edgewood St.  
311 S. Williams St.  
P.O. Box 555

Aliquippa, PA 15001  
Westmont, IL 60559  
Carmel, IN 46032

## Renewals:

Ruck Battin, Robert Foxworth, George Greene, Alan Hobson, Roy Horsley, John Jefferson, Deane McIntyre, William C. Palmer, Lee Prescott, Marvin Shults, Jim White, Thomas Yeazell.

## Rejoins:

Ed Kowalski-3300 Chesterfield Road-Philadelphia, PA 19114  
Andrew Smith-RD 3, Box 268-Dillsburg, PA 17019

## Address Changes:

William Johnson-128 Carriage Way Drive-Burr Ridge, IL 60521  
William Nicholson-2127 N. Parkside Ave., #8-Los Angeles, CA 90031  
Rod O'Connor-USCGC Ironwood (WLB-297)-FPO Seattle, WA 98799

## Renewals Due in January:

Robert E. Baxter, Ed Brindle, Wayne Covington, Bill Draeb, Bruce Goldsen, James R. Hastings, Daryl Herzog, Carlton Howington, Rod Luoma, W.J. Mansir, Clint McAuliffe, Walter McKean, Timothy Miller, L. Donald Richard, David Rogers, Craig Shura, P. Somerset, Robert Stear, Paul Traska, Morgan Williams.

29 year old ADAM HORNIAC is employed as a millwright. His main interest is TV DX, for which he uses a 19" portable TV. Adam found out about the club thru QST magazine.

EDWARD SIROVY is a computer programmer who DXs with a Zenith TV and a Sony receiver for FM and BCB.

## Tidbits.....

Rejoining after many years is Ed Kowalski. He's also a member of NPO, NASWA, and NNRC. Ed's DX interests include TV, BCB, shortwave and longwave.

We have several comments this month from Wayne Covington: 1) Pe the article by Peter Sawatzky on the Pioneer KP-500: He notes that the Heathkit AJ-15 claims better than 1.2  $\mu$ v IHF sensitivity and the Pioneer KP-500 specs state 1.1  $\mu$ v IHF. But the AJ-15 has a 300 ohm input and the KP-500 has a 75 ohm input, so the 1.8 and 1.1 cannot be compared without taking this difference into account. In fact, 1.1  $\mu$ v into 75 ohms is equivalent to 2.2  $\mu$ v into 300 ohms. (The multiplying factor is the square root of the impedance ratio). Nevertheless, I thought this was a very useful and informative report on the KP-500. 2) Regarding getting an FM receiver for a car: I recently purchased a Datsun B-210, and I decided to install an FM receiver other than the factory-supplied unit. I had a very difficult time finding a reasonably well-performing unit that would fit in the car. I finally got a Sony TC-24FA, which is OK but noticeably poorer than my Kenwood KT-8007 home receiver. Readers who are about to purchase one of the smaller cars and who wish to install their own FM receiver should be warned to check ahead to be sure the unit they have selected will fit in the dash or the console! A reputable car stereo shop should be able to give them this information. 3) Have any readers experimented on the optimum spacing between stacked yagi FM antennas? I have a letter from Winegard claiming 5' to 6', but "dividing 5440 by the frequency in MHz will give the half wave length in inches at which two antennas should be stacked." This not only contradicts the 5' to 6' figure, the correct number is 5905, not 5440, for a half wavelength. I am using 60 inches, but it is such a major project to change my antenna spacing that up until now I have not felt like fooling around with it. Yet if anyone has found that some "correct" spacing can make a material difference, the rest of the readers may want to know."

As noted earlier, the address for Rod O'Connor has changed. Rod writes that he's being transferred to a buoy-tender at Adak, Alaska....quite a change from Maine, eh?

We editor just received the latest catalog from CPB Research. Seems that they're offering quite a few interesting items on VHF monitoring, including a new Indiana listing. From what I've seen, tho, I'd have to agree with Terry Colgan's comments that Police Call is much better.....73.....73



# FM NEWS

Bruce F. Elving, Editor  
18 1/2 East Fifth Street  
Duluth MN 55805

## New FM Station Grants

AR Benton 107.1 3000 h.v.; 146"  
CO Castle Rock 92.1 3000 h.v.; 300"; k music  
FL Holiday (N. of New Port Richey) 106.3 3000  
h.v.; 300"; middle of the road music  
ME Millinocket 97.7 3000 h.v.; 190"; k  
MI Baylond 95.3 1800 h.v.; 370"; gospel music  
MN Winona "90.9 10 watts. St. Mary's College  
MS Eupora 101.7 3000 h.v.; 300"  
MO Bethany 95.9 3000 h.v.; 300"; country music  
MT Billings 102.9 100000 h.v.; 500"; fm  
NM Portales 95.3 3000 h.v.; 300"; m  
OR Pendleton 107.2 27500 h.v.; 610"; m  
PA Canton 100.1 500 h.v.; 650"; m  
PA Mechanicsburg 93.5 3000 h.v.; 300"; rock  
SC Beaufort "89.9 47000 h.v.; 1100"; Stereo, cr.  
P (Nat'l Public Radio); Ed. TV Commission  
TX Lufkin 99.3 1900 h.v.; 360"; m  
UT Richfield 93.7 27000 horizontal only; -820"  
VA Warrenton WORA 94.3 3000 h.v.; 300"  
WI Oshkosh W21AD 92.1 g, g (WRVW 102.7 Suring  
WI translator; 1 watt)  
WY Evanston K252A 98.3 g, r (KRSP-FM 103.5  
Salt Lake City UT; probably 10 watts)  
AT Manning 100.5 13500 CBC-AM, CBX repeater  
AT Peace River 92.5 732. CBC-AM, CHFA "French  
ON Fort Hope 104.5 41 watts; CBC-AM, CBL  
ON London 100.5 22500, Stereo, CBC-FM  
NWT Spence Bay 105.1 82 watts; CBC-English,  
with 2 hours local cutaway per day allowed

## On Air and DX Ready (presumed)

AK Nome KICY-FM 100.3 84 watts h.v.; 40"  
AK North Pole KJNP-FM 100.3 g, c 25000 h.v.;  
1520". AK Petersburg KFSK "100.9 10 watts.  
AR Salem KSAR 95.9 2500 h.v.; 325"  
FL Key West W11S 107.1 2000 h.v.; 95"  
GA Dublin WQZY 95.9 3000 h.v.; 220"  
GA Eastman WUFF-FM 92.1 2000 h.v.; 270"  
GA Springfield WQEC 103.9 3000 h.v.; 300"  
GA Valdosta WILGA 95.9 3000 h.v.; 300"  
IN Rensselaer WPUH "90.5 10 watts  
LA Bastrop KJBS 100.1 3000 h.v.; 180"  
LA Crowley KAJN-FM 102.9 100000 h.v.; 450" [not  
NI Howell W1N1-FM 93.5 re; 3000 h.v.; 300" y, f,  
MN Collegeville KSJW "89.1 10  
MS Pascagoula WGO 106.3 2350 h.v.; 350"  
MO Poplar Bluff KJEZ 95.5 100000 h.v.; 410"  
MI Newport WMLW-FM 101.2 2800 (h); 51"  
NH Russell KRIS-FM 97.1 25000 (h); 235"  
TN Springfield WDBL-FM 94.3 3000 h.v.; 300"  
TX Mineola KMWO-FM 96.7 3000 h.v.; 300"  
WA Spokane KWRN "90.3 10 watts

## On Air with Changes (selected)

AL Tuscaloosa WUGA 95.7 50000 h.v.; 320"  
CA Pala Springs KOLS-FM 104.7 42000 h.v.; 540"  
ID Moscow KUBI-FM "91.7 1050; 1000"  
IN Washington NFML 106.5 50000 h.v.; 340"  
IA Charles City KCHA-FM 95.9 3000 h.v.; 100"  
(from 104.9). CP for Hampton IA 104.9 extended,  
even though FCC is concerned KCH 104.3  
Hampton is stalling and may not build.  
LA Ferndale KFWH-FM 107.1 (from 92.5)  
LA New Orleans WYLD-FM 98.5 100000 h.v.; 360"  
MA Hyannis WCOB-FM 106.1 13000 h.v.; 130"

MN Albuquerque KHFM 96.3 2150 h.v.; 4130"  
4100". KRKE-FM 94.1 19500 directional,  
4100". MNVR 99.5 19500 h.v.; 4100"  
OH Centerville WCVT-FM "91.9 (from 89.5)  
TX Fort Worth KTCU-FM "98.7 (from 89.1),  
3000 h.v.; 125"; Stereo, Jr.  
WA Centralia KELA-FM 102.9 28000 h.v.; 300"

## Non-Identifying Stations

AL Mobile WLPR 96.1 FM-96  
WRRG-FM 99.9 Stereo-100  
FL Lakeland WJFM 94.1 FM-94  
GA Macon WCRY-FM 107.9 FM-108  
IL Mt. Vernon

ME Lincoln K27AD 93.5 (was a KGBL 100.7  
Omaha NE translator, but station had  
opposition to that frequency in Lincoln;  
plans to reapply later for another  
channel in Lincoln).  
TX Dallas KCHU "90.9. Telephone discon-  
nected to station and to Lorenzo Milam's  
home. Station has been off about three  
months; could not get enough local  
support for its way-out programming. MN  
and TX actions not official FCC  
deletions, but for all intents and pur-  
poses one may assume them to be  
permanently off the air.

Much of the news in this month's column is from a  
trip I took by car with SGA to central Texas and back.

# WMMX 94

## AM & FM RADIO

Withers Broadcasting Company of Illinois  
Post Office Box 1238/Mt. Vernon, Illinois 62684

## Call Letters' Changes?

WMMX-FM 94.1 Stereo-94  
IA Des Moines KMGX 93-FM  
LA Baton Rouge WAFB-FM 98.1 Stereo-98  
WQZY 100.7 FM-100  
KS Hutchinson KSKR 102.1 U-102  
KY Paducah WKYU 93.3 The O  
KS Junction City KJCK-FM 94.5 FM-94 AP Audio  
MI Flint WJCK 105.5 105-FM  
MS Jackson WJIN 95.5 FM-95  
MS Natchez WQNZ Rock 95 (95.7; end of Hit  
Parade for that station?) [Ider.  
MO Kansas City KBEO 98.3 no longer a non-  
NE Omaha KGOR 99.9; no longer a non-IDer.  
NY Buffalo WUOL-FM 104.1 FM-104; asks one  
reporter: "The price you have to pay for  
non-simulcast [with AM]."  
OK Tulsa KJEN 95.5 Queen Stereo 95.  
TN Chattanooga WDEF-FM 92.3 FM-92  
WDOO-FM 96.5 Stereo-96

TX Dallas KXDA-FM 94.1 Stereo resumed.  
TX Fort Worth KFJZ-FM 97.1 2-97. Has a  
news SCA, consisting of the "Continental  
News Service," Texas State Network and WPI  
Audio. At about :07 each hour gives id's  
for stations relaying this service, in-  
cluding also KJCS 103.3 Waco/Dochoes TX.  
TX Fort Worth KFMU 102.1 FM-102, not just  
WDOO.

PG Montreal CITE-FM-2 107.3 never uses  
calls: just "city," and "cent sept"  
(one hundred seven).

## Dual-City Identifications

IN Rockville WAFI 104.9 adds Citation IN  
IN Vevay WAVY 95.9 adds Warsaw KY [KY  
KY Hartford WLLS-FM 106.3 adds Beaver Dam/  
NH Dover WOKQ 97.5 adds Portsmouth NH

## Deletions

MN Blue Earth KBEN-FM 100.9 (necessary  
because KBEN-FM's owner bought KEEZ 98.1  
Mankato-Blue Earth MN)

KS Leavenworth 98.9 heard as KTR0? (Has  
been KCL0-FM). SD Sioux Falls heard as  
KVLK? (Was KCHF-FM).

## Call Letters' Changes

AK Fairbanks "104.7 KQAC-FM" (KUAC)  
AR Little Rock 98.5 KLAZ-FM (KLAZ)  
IL Highland Park 103.1 WVVX-FM (WVVX-FM)  
IL Zion 96.9 WKZN-FM (not KXZN); dual-  
city identification with Kenosha WI.  
IN Muncie "90.5 WDO5  
KS Hutchinson 102.9 KHUT (KWHN-FM)  
MA Charlton "90.1 NBPV  
MA Duxbury "91.7 WDSY [RM Zuni "90.9 KSHI  
NM Gallup 94.5 KOVO (KGLP) 102.9 WBCS-FM  
NY Brooklyn "90.9 WKRB (107.3 WBCS)  
NC Fayetteville "88.1 WFSF-FM (WFSF)  
PA Philadelphia "90.9 WURY (WURY-FM),  
104.5 KSN1 (WRCP-FM),  
now mostly m, but some k; mk.

AT Grande Prairie "100.9 CKUA-FM (FM)  
AT Peace River "96.9 CKUA-FM5 (not CKUA-  
FM) SAult Ste. Marie 100.5 CHAS-FM (CHIC-  
FM)

## Facilities' Changes

AL Andalusia WQHR 98.1 70000 h.v.; 250"  
AL Carrollton WAOI 94.1 100000 h.v. (360")  
AZ Lake Havasu City KBAS 95.9 3000 (h),  
-295". CA El Cerrito KFCO "98.1 adds v.  
CA Lompoc KLPC 97.7550 h.v.; 710"  
ID Sun Valley KSKI-FM 93.5 2130" (51w, v)  
IN Elkhart WXAX 104.7 460" (50000 h.v.)  
KS Wichita KJWB "89.1 has no vertical  
KY Henderson WQDQ 99.5 480" (50000 h.v.)  
ME Ellsworth WDEA-FM 95.7 8700 h.v.; 990"  
MO LaPlata WXTB 104.1 50000 h.v.; 500",  
presumably deleting directional antenna.  
CA Springfield WAFY 102.1 17000 h.v.; 780"  
MI Plymouth WSPD to "98.1 (from 89.3),  
280 watts horizontal; 73".  
MN Alexandria KXRA-FM 92.7 3000 h.v.; 150"  
MN Grand Marais K296AW 107.1 to K288BE,  
105.5.  
MN Moorhead KQMB-FM 98.7 360" (100000 h.v.)



# FCC-FM

MN St. Cloud KXCD-FM 104.7 100000w, v; 460'  
 MN Silver Bay K288NE 105.5 to K296AM 107.1  
 MO El Dorado Springs KCSM-FM from 107.1 to 105.5. NO Joplin K06C 3000 h.v. has vertical.  
 MO Sedalia K06C 92.1 3000 h.v. (280')  
 MT Great Falls KOPR 106.3 750 h.v.; 300'  
 MN Conkey WBNC-FM 93.5 1456 h.v.; 410'  
 NJ New Brunswick WMOG 98.3 1000 h.v.; 530'  
 NC Raleigh WRAL 101.5 97000 h.v.; 1890'  
 OH Ashland WROD-FM 97.1 has vertical  
 OH Eaton WJAI 20000 h.v.; 106'; gives up its application for much higher power and a transmitter move to serve Dayton in the face of FCC hearing; unfortunate!  
 PA Erie WERG 89.1 3000 h.v.; -125' (from 89.9)  
 PA Philadelphia WRIT 90.1 830 h.v. (400'), reduces coverage significantly—why?  
 PA Starves WWHY 435 h.v.; 700' (reduces its coverage somewhat); rp (from p); has Burkhardt-Abrams' "ADR" format.  
 PA State College WILR 89.9 10000 h.v.; 450'  
 SC Lenoir WELP-FM 103.9 2500 h.v.; 330'  
 SC Laurens WGLL 100.5 760' (100000 h.v.)  
 SD Aberdeen KQAA 94.9 100000 h.v.; 1280'  
 TN Jackson WKIR 104.1 100000 h., 83000 v; 660'  
 TN Springfield WGBL-FM 94.3 300' (3000 h.v.)  
 TX Copperas Cove KOOV 103.1 2500 h.v.; 320'  
 TX El Paso KIEP 88.5 94000 h.v.; 730'  
 KSEI-FM 94.7 91000 h.v.; 740'  
 TX Killeen KNCT-FM 91.3 adds vertical  
 TX San Antonio KSYM from 90.3 to 90.8  
 TX Tyler KTYL 93.1 450' (100000 h.v.)  
 VA Richlands WGH 105.5 450 h.v.; 800'  
 WA Spokane KALY-FM 94.9 25000 h.v.; 3030'  
 WY Cheyenne WWHF 92.7 620 h.v. (670')  
 WI Janesville WJVL 94.9 has only 200' (20000 h., 18000 v.).  
 WI La Crosse W292AB 106.3 changes primary station from WNBC 102.5 Madison to WUW 103.7 Ladysmith-WI; becomes commercial(na).  
 OH Belleville CJBQ-FM 97.1 to 50000 watts.  
 ON London, all new station reported to be on the air on 97.5, 50000; 497'.  
 PQ Jonquiere, CHOC 92.5; Chicoutimi, CHU1 98.7, CBQ-FM 100.9 and CBUE 107.9, all are changing; their cities of license to Saguenay. "Saguenay" is the name of several combined cities in the area, and is to take effect early in 1978.

## Stereo, to be Stereo, 3 Resumed

AR Springdale KC12 104.9; music on SCA  
 CA Chatsworth WQMT 99.3, k  
 ID Boise KJOT 105.1, m  
 IA Cherokee KCHE-FM 102.3 (may have to move to 92.3 in a few months).  
 KS Chanute KQSM 105.5; no network (was ABC-Information); music on its SCA.  
 KS Iola KROL 98.3, NE Lincoln KRCV 91.3  
 MI Coldwater WAGS 98.5, 91.3  
 NE Wayne KTCM-FM 104.9, m  
 NJ Morrisran WJSV 90.5, r  
 OK Ardmore KRBD 92.1, k  
 OK Henryetta KHEH-FM 99.5; no SCA.  
 TX Dallas KNGA-FM 104.5, "K-104."  
 TX Fort Worth KTCU 88.7; j  
 TX Marshall KMHF-FM 103.9  
 WY Wheeling WCP1 98.7 rp (from k); "FM-98"  
 WI Milwaukee WWMN 89.7 t; Stereo to take effect along with move to 1500 (h); 830' around January 1, 1978.

# Formats/Networks

AL Montgomery WREZ 103.3 a (from rock)  
 AR Fort Smith KMGH 99.1 v (ABC Contemporary)  
 CA Bakersfield KGFH 101.5 b (from m)  
 GA Savannah KXLM 97.3 rp (from m)  
 HI Honolulu KONO 93.1 rp (not m); has Burkhardt-Abrams' "ADR" service.  
 IL Calidwell KBRJ 94.1 m (from mg)  
 IL Chicago WJEZ 104.3 km  
 IL Matteson WLDH-FM 96.9 m (from fm)  
 IA Clarinda KSMH 106.3 rl, \$  
 IA Denison KDSM-FM 107.1 m (not nr); now operates on correct frequency, not illegal 107.3 plus!  
 IA Sheldahl KMAA-FM 105.5 mc (nights)  
 KS Great Bend KWGB-FM 104.3 m (m days r / N)  
 MI Garyville KMOY-FM 103.3 r (from m)  
 KS Salina KVEZ 93.7 ABC-FM  
 KS Topeka KDVP 100.3 g (not m); "K-Dave".  
 LA Baton Rouge WBFH 100.3 rp MC Portland  
 LA Lafayette KSMH 94.5 rj WMOG 93.1 m  
 MI Bad Axe WLLW-FM 92.1 m (from mr); has separate musical programming from its AM.  
 MI Caro WIDL "Ideal Radio" 104.9 r.  
 MI Detroit WDRG 93.1 no UPI Audio.  
 WMM 106.7 no ABC Contemporary  
 MI Lapeer WTHM-FM 103.1 m  
 MI Mount Clemens WBRB-FM 102.7 m (from mr; now separate b programming from its AM)  
 MN Mankato KMSU 90.5 m (from ms)  
 KYSM-FM 103.5 k (from ms)  
 MN St. Peter KRBI-FM 105.5 m (from k)  
 MN Windom KDOM-FM 94.3 m; no stereo.  
 MO St. Joseph KSEF 105.1 k (from m); "FM-105"  
 NE Beatrice WBEF-FM 92.9 k (from m); "9-93"  
 NE Fremont KNUB-FM 105.5 r (not nr)  
 NE Grand Island KROA 95.7 gc (from m); W Audio (from UPI Audio); SCA has FX (talking and teleprinter noise farm news); this station was bought by KGB1 100.7 Omaha.  
 NY Potsdam WISC 91.1 p OK Bethany KJIL  
 ND Mandan KNDR 104.9 gm 104.9 u, q; some m.  
 OH Akron WDDD 96.5 fm (was progressive rock)  
 OH Alliance WFAH-FM 92.5 m (from m)  
 OH Cleveland WGLD 98.5 no network (was A)  
 OH Mansfield WCLM-FM 105.3 rp; \$.  
 WYND 106.1 FA. OK Neosho KHEE

OK Middlefield WPMF 105.9 g 94.3 l.  
 OK Bartlesville KXFM 100.1 l; no SCA  
 SCAs Continued from following columns:  
 OK Pryor KRNA 104.5 no SCA; had live mono bluesgrass music on main channel!  
 OK Stillwater KOSU 91.7 no SCA  
 OK Tulsa KBEZ 92.5 no SCA  
 KRAV 96.5 no SCA, "FM-96"  
 KMOB 97.5 no SCA  
 KGO 98.5 music  
 KROL 103.3 talking book  
 TX Dallas KAFM 92.5 no SCA (was ABC relay)  
 TX Mt. Pleasant KPXI 109.7 no SCA  
 WA Bellingham KISW 92.9 music  
 WA Seattle KENT 94.1 no SCA heard, except for occasional telemetry tones.  
 WA Seattle KSEA 100.7 gospel (Bormen Church readings heard 8 to 8:45 p. m. one night)  
 OFF AIR: OK McAlester KNEO-FM 101.5; xmr problems; hopes to be on now with \$, a, b, h.  
 TX Denison KGCC 89.7, but had been or recently; technical/personnel difficulties?  
 TX Hillsboro KHRB-FM 102.5; xmr parts being shipped in; not sure when would be back on.

# December, 1977

OK Durant KSEF-FM 107.1 m; music SCA; no  
 OK Okmulgee KLS 94.3 k (from m)  
 OK Sapulpa KXOJ-FM 100.9 g (from mr); El  
 OK Tahlequah KEOB 101.7 k  
 OK Tonkawa KAYE 90.5 rk; some c; has v.  
 SD Sioux Falls KCHF-FM (calls may be "KLVN") 93.5 pr (not m).  
 TN Memphis WZLW 102.7 rp (from k)  
 TX Dallas WRR-FM 101.1 UPI Audio (SCA)  
 KHEG 102.9 r (from rg); music!  
 TX Denison-Sherman KRSQ 101.7 "Q-102" r (from m); A (from E).  
 TX Marlin KLMF 96.7 k (not nr); U; mono.  
 TX Temple KPLE 104.9 k.  
 TX Waco KEFC 95.5 gm (from r); no SCA  
 VT Burlington WRUV 90.1 pj  
 WY Laramie KLYN 106.5 m (ethnic is 10 pm to midnight with East Indian programming aimed at Vancouver 8C).  
 WI Menomonie Falls WZFH 98.3 Y (from A)  
 WI Milwaukee WRIT 94.5 ABC-FM  
 PQ Shebronite CITEP-FM 101.2 m or r; no id's as "Citya."

## SCA (67kHz) News

AL Andalusia WQHD 98.1 program relay (presumably ABC radio networks)  
 AR Fayetteville KMAA 103.9 music  
 AR Siloam Springs KQOA-FM 105.7 no SCA  
 IL Chicago WMBH 97.1 ethnic (Chinese)  
 IL E. Moline WEMO 101.3 no SCA; carrier only heard.  
 IA Fort Dodge KKEZ 94.5 FX—talking and teleprinter farm news.  
 IA Twin Lakes KTLB 105.5 no SCA heard  
 KS Junction City KJCK-FM 94.5—talking and teleprinter farm news.  
 KS Kansas City KUOL 98.1 no SCA  
 KS Lawrence KAMU 91.5 talking book  
 KS Manhattan KMHF 101.7 music; r on main channel exclusively; from mr.  
 KS Pittsburg KMRJ 96.9 music  
 KS Topeka WBBW-FM 97.3 no SCA  
 KS Wichita KARU 107.3 FX—talking and teleprinter farm news.  
 MO Princess Anne WOLC 102.5 music  
 MN Pipestone KLOH-FM 98.7 has quit its ABC news relay; no SCA in use.  
 MO Florissant KSCF 97.1 to have gospel  
 MO Kansas City KCUR 89.3 no SCA heard  
 KBER 104.3 no SCA; not a non-IDer. NC Warrensburg KCMH 90.9 carrier only. NL Omaha KQWH-FM 94.1 PRN (Physicians Radio Network); E on main channel, not ZE networks.  
 NE Seward KSRB 98.4 talking book, picked up from KIOS 94.5 Omaha NE.  
 NT Johnston WMMJ 101.7 adds SCA  
 NC Durham WDCG 105.1 Muzak  
 OH Cleveland WZAK 95.1 no SCA (was Muzak)  
 OH Johnstown WMMJ 103.1 adds SCA  
 OK Edmond KHPH 97.7 no SCA  
 OK Oklahoma City KECB 94.7 music (muffled)  
 KJL 98.9 music (fair)  
 KAT 100.5 no SCA  
 KFB 101.9 " " ("FM-102")  
 KZUE 102.7 talking book  
 KDFM 104.1 music (bright)  
 OK Ponca City KLOP 99.3 no SCA.

(Continues preceding column.)

WFSB-FM 102.5, Hartford, CT, if heard on the preceding page, is being put on the air. It is held over, minimal operation when it is on the air, duplicating the AM broadcast and signing off as early as 6 p.m. (along with the AM), when FCC rules clearly require FM stations to stay on the air until 10 p.m. local time. **Abbreviations used in this column:**

A, classical; C, ethnic, a gospel; D, dance; E, country; G, general; H, progressive rock; I, rock, pop rock and progressive; J, "album-oriented" rock; K, rock; L, "album-oriented" rock; M, "album-oriented" rock; N, "album-oriented" rock; O, "album-oriented" rock; P, "album-oriented" rock; Q, "album-oriented" rock; R, "album-oriented" rock; S, "album-oriented" rock; T, "album-oriented" rock; U, "album-oriented" rock; V, "album-oriented" rock; W, "album-oriented" rock; X, "album-oriented" rock; Y, "album-oriented" rock; Z, "album-oriented" rock; AA, "album-oriented" rock; AB, "album-oriented" rock; AC, "album-oriented" rock; AD, "album-oriented" rock; AE, "album-oriented" rock; AF, "album-oriented" rock; AG, "album-oriented" rock; AH, "album-oriented" rock; AI, "album-oriented" rock; AJ, "album-oriented" rock; AK, "album-oriented" rock; AL, "album-oriented" rock; AM, "album-oriented" rock; AN, "album-oriented" rock; AO, "album-oriented" rock; AP, "album-oriented" rock; AQ, "album-oriented" rock; AR, "album-oriented" rock; AS, "album-oriented" rock; AT, "album-oriented" rock; AU, "album-oriented" rock; AV, "album-oriented" rock; AW, "album-oriented" rock; AX, "album-oriented" rock; AY, "album-oriented" rock; AZ, "album-oriented" rock; BA, "album-oriented" rock; BB, "album-oriented" rock; BC, "album-oriented" rock; BD, "album-oriented" rock; BE, "album-oriented" rock; BF, "album-oriented" rock; BG, "album-oriented" rock; BH, "album-oriented" rock; BI, "album-oriented" rock; BJ, "album-oriented" rock; BK, "album-oriented" rock; BL, "album-oriented" rock; BM, "album-oriented" rock; BN, "album-oriented" rock; BO, "album-oriented" rock; BP, "album-oriented" rock; BQ, "album-oriented" rock; BR, "album-oriented" rock; BS, "album-oriented" rock; BT, "album-oriented" rock; BU, "album-oriented" rock; BV, "album-oriented" rock; BW, "album-oriented" rock; BX, "album-oriented" rock; BY, "album-oriented" rock; BZ, "album-oriented" rock; CA, "album-oriented" rock; CB, "album-oriented" rock; CC, "album-oriented" rock; CD, "album-oriented" rock; CE, "album-oriented" rock; CF, "album-oriented" rock; CG, "album-oriented" rock; CH, "album-oriented" rock; CI, "album-oriented" rock; CJ, "album-oriented" rock; CK, "album-oriented" rock; CL, "album-oriented" rock; CM, "album-oriented" rock; CN, "album-oriented" rock; CO, "album-oriented" rock; CP, "album-oriented" rock; CQ, "album-oriented" rock; CR, "album-oriented" rock; CS, "album-oriented" rock; CT, "album-oriented" rock; CU, "album-oriented" rock; CV, "album-oriented" rock; CW, "album-oriented" rock; CX, "album-oriented" rock; CY, "album-oriented" rock; CZ, "album-oriented" rock; DA, "album-oriented" rock; DB, "album-oriented" rock; DC, "album-oriented" rock; DD, "album-oriented" rock; DE, "album-oriented" rock; DF, "album-oriented" rock; DG, "album-oriented" rock; DH, "album-oriented" rock; DI, "album-oriented" rock; DJ, "album-oriented" rock; DK, "album-oriented" rock; DL, "album-oriented" rock; DM, "album-oriented" rock; DN, "album-oriented" rock; DO, "album-oriented" rock; DP, "album-oriented" rock; DQ, "album-oriented" rock; DR, "album-oriented" rock; DS, "album-oriented" rock; DT, "album-oriented" rock; DU, "album-oriented" rock; DV, "album-oriented" rock; DW, "album-oriented" rock; DX, "album-oriented" rock; DY, "album-oriented" rock; DZ, "album-oriented" rock; EA, "album-oriented" rock; EB, "album-oriented" rock; EC, "album-oriented" rock; ED, "album-oriented" rock; EE, "album-oriented" rock; EF, "album-oriented" rock; EG, "album-oriented" rock; EH, "album-oriented" rock; EI, "album-oriented" rock; EJ, "album-oriented" rock; EK, "album-oriented" rock; EL, "album-oriented" rock; EM, "album-oriented" rock; EN, "album-oriented" rock; EO, "album-oriented" rock; EP, "album-oriented" rock; EQ, "album-oriented" rock; ER, "album-oriented" rock; ES, "album-oriented" rock; ET, "album-oriented" rock; EU, "album-oriented" rock; EV, "album-oriented" rock; EW, "album-oriented" rock; EX, "album-oriented" rock; EY, "album-oriented" rock; EZ, "album-oriented" rock; FA, "album-oriented" rock; FB, "album-oriented" rock; FC, "album-oriented" rock; FD, "album-oriented" rock; FE, "album-oriented" rock; FF, "album-oriented" rock; FG, "album-oriented" rock; FH, "album-oriented" rock; FI, "album-oriented" rock; FJ, "album-oriented" rock; FK, "album-oriented" rock; FL, "album-oriented" rock; FM, "album-oriented" rock; FN, "album-oriented" rock; FO, "album-oriented" rock; FP, "album-oriented" rock; FQ, "album-oriented" rock; FR, "album-oriented" rock; FS, "album-oriented" rock; FT, "album-oriented" rock; FU, "album-oriented" rock; FV, "album-oriented" rock; FW, "album-oriented" rock; FX, "album-oriented" rock; FY, "album-oriented" rock; FZ, "album-oriented" rock; GA, "album-oriented" rock; GB, "album-oriented" rock; GC, "album-oriented" rock; GD, "album-oriented" rock; GE, "album-oriented" rock; GF, "album-oriented" rock; GG, "album-oriented" rock; GH, "album-oriented" rock; GI, "album-oriented" rock; GJ, "album-oriented" rock; GK, "album-oriented" rock; GL, "album-oriented" rock; GM, "album-oriented" rock; GN, "album-oriented" rock; GO, "album-oriented" rock; GP, "album-oriented" rock; GQ, "album-oriented" rock; GR, "album-oriented" rock; GS, "album-oriented" rock; GT, "album-oriented" rock; GU, "album-oriented" rock; GV, "album-oriented" rock; GW, "album-oriented" rock; GX, "album-oriented" rock; GY, "album-oriented" rock; GZ, "album-oriented" rock; HA, "album-oriented" rock; HB, "album-oriented" rock; HC, "album-oriented" rock; HD, "album-oriented" rock; HE, "album-oriented" rock; HF, "album-oriented" rock; HG, "album-oriented" rock; HH, "album-oriented" rock; HI, "album-oriented" rock; HJ, "album-oriented" rock; HK, "album-oriented" rock; HL, "album-oriented" rock; HM, "album-oriented" rock; HN, "album-oriented" rock; HO, "album-oriented" rock; HP, "album-oriented" rock; HQ, "album-oriented" rock; HR, "album-oriented" rock; HS, "album-oriented" rock; HT, "album-oriented" rock; HU, "album-oriented" rock; HV, "album-oriented" rock; HW, "album-oriented" rock; HX, "album-oriented" rock; HY, "album-oriented" rock; HZ, "album-oriented" rock; IA, "album-oriented" rock; IB, "album-oriented" rock; IC, "album-oriented" rock; ID, "album-oriented" rock; IE, "album-oriented" rock; IF, "album-oriented" rock; IG, "album-oriented" rock; IH, "album-oriented" rock; II, "album-oriented" rock; IJ, "album-oriented" rock; IK, "album-oriented" rock; IL, "album-oriented" rock; IM, "album-oriented" rock; IN, "album-oriented" rock; IO, "album-oriented" rock; IP, "album-oriented" rock; IQ, "album-oriented" rock; IR, "album-oriented" rock; IS, "album-oriented" rock; IT, "album-oriented" rock; IU, "album-oriented" rock; IV, "album-oriented" rock; IW, "album-oriented" rock; IX, "album-oriented" rock; IY, "album-oriented" rock; IZ, "album-oriented" rock; JA, "album-oriented" rock; JB, "album-oriented" rock; JC, "album-oriented" rock; JD, "album-oriented" rock; JE, "album-oriented" rock; JF, "album-oriented" rock; JG, "album-oriented" rock; JH, "album-oriented" rock; JI, "album-oriented" rock; JJ, "album-oriented" rock; JK, "album-oriented" rock; JL, "album-oriented" rock; JM, "album-oriented" rock; JN, "album-oriented" rock; JO, "album-oriented" rock; JP, "album-oriented" rock; JQ, "album-oriented" rock; JR, "album-oriented" rock; JS, "album-oriented" rock; JT, "album-oriented" rock; JU, "album-oriented" rock; JV, "album-oriented" rock; JW, "album-oriented" rock; JX, "album-oriented" rock; JY, "album-oriented" rock; JZ, "album-oriented" rock; KA, "album-oriented" rock; KB, "album-oriented" rock; KC, "album-oriented" rock; KD, "album-oriented" rock; KE, "album-oriented" rock; KF, "album-oriented" rock; KG, "album-oriented" rock; KH, "album-oriented" rock; KI, "album-oriented" rock; KJ, "album-oriented" rock; KK, "album-oriented" rock; KL, "album-oriented" rock; KM, "album-oriented" rock; KN, "album-oriented" rock; KO, "album-oriented" rock; KP, "album-oriented" rock; KQ, "album-oriented" rock; KR, "album-oriented" rock; KS, "album-oriented" rock; KT, "album-oriented" rock; KU, "album-oriented" rock; KV, "album-oriented" rock; KW, "album-oriented" rock; KX, "album-oriented" rock; KY, "album-oriented" rock; KZ, "album-oriented" rock; LA, "album-oriented" rock; LB, "album-oriented" rock; LC, "album-oriented" rock; LD, "album-oriented" rock; LE, "album-oriented" rock; LF, "album-oriented" rock; LG, "album-oriented" rock; LH, "album-oriented" rock; LI, "album-oriented" rock; LJ, "album-oriented" rock; LK, "album-oriented" rock; LL, "album-oriented" rock; LM, "album-oriented" rock; LN, "album-oriented" rock; LO, "album-oriented" rock; LP, "album-oriented" rock; LQ, "album-oriented" rock; LR, "album-oriented" rock; LS, "album-oriented" rock; LT, "album-oriented" rock; LU, "album-oriented" rock; LV, "album-oriented" rock; LW, "album-oriented" rock; LX, "album-oriented" rock; LY, "album-oriented" rock; LZ, "album-oriented" rock; MA, "album-oriented" rock; MB, "album-oriented" rock; MC, "album-oriented" rock; MD, "album-oriented" rock; ME, "album-oriented" rock; MF, "album-oriented" rock; MG, "album-oriented" rock; MH, "album-oriented" rock; MI, "album-oriented" rock; MJ, "album-oriented" rock; MK, "album-oriented" rock; ML, "album-oriented" rock; MM, "album-oriented" rock; MN, "album-oriented" rock; MO, "album-oriented" rock; MP, "album-oriented" rock; MQ, "album-oriented" rock; MR, "album-oriented" rock; MS, "album-oriented" rock; MT, "album-oriented" rock; MU, "album-oriented" rock; MV, "album-oriented" rock; MW, "album-oriented" rock; MX, "album-oriented" rock; MY, "album-oriented" rock; MZ, "album-oriented" rock; NA, "album-oriented" rock; NB, "album-oriented" rock; NC, "album-oriented" rock; ND, "album-oriented" rock; NE, "album-oriented" rock; NF, "album-oriented" rock; NG, "album-oriented" rock; NH, "album-oriented" rock; NI, "album-oriented" rock; NJ, "album-oriented" rock; NK, "album-oriented" rock; NL, "album-oriented" rock; NM, "album-oriented" rock; NN, "album-oriented" rock; NO, "album-oriented" rock; NP, "album-oriented" rock; NQ, "album-oriented" rock; NR, "album-oriented" rock; NS, "album-oriented" rock; NT, "album-oriented" rock; NU, "album-oriented" rock; NV, "album-oriented" rock; NW, "album-oriented" rock; NX, "album-oriented" rock; NY, "album-oriented" rock; NZ, "album-oriented" rock; OA, "album-oriented" rock; OB, "album-oriented" rock; OC, "album-oriented" rock; OD, "album-oriented" rock; OE, "album-oriented" rock; OF, "album-oriented" rock; OG, "album-oriented" rock; OH, "album-oriented" rock; OI, "album-oriented" rock; OJ, "album-oriented" rock; OK, "album-oriented" rock; OL, "album-oriented" rock; OM, "album-oriented" rock; ON, "album-oriented" rock; OO, "album-oriented" rock; OP, "album-oriented" rock; OQ, "album-oriented" rock; OR, "album-oriented" rock; OS, "album-oriented" rock; OT, "album-oriented" rock; OU, "album-oriented" rock; OV, "album-oriented" rock; OW, "album-oriented" rock; OX, "album-oriented" rock; OY, "album-oriented" rock; OZ, "album-oriented" rock; PA, "album-oriented" rock; PB, "album-oriented" rock; PC, "album-oriented" rock; PD, "album-oriented" rock; PE, "album-oriented" rock; PF, "album-oriented" rock; PG, "album-oriented" rock; PH, "album-oriented" rock; PI, "album-oriented" rock; PJ, "album-oriented" rock; PK, "album-oriented" rock; PL, "album-oriented" rock; PM, "album-oriented" rock; PN, "album-oriented" rock; PO, "album-oriented" rock; PP, "album-oriented" rock; PQ, "album-oriented" rock; PR, "album-oriented" rock; PS, "album-oriented" rock; PT, "album-oriented" rock; PU, "album-oriented" rock; PV, "album-oriented" rock; PW, "album-oriented" rock; PX, "album-oriented" rock; PY, "album-oriented" rock; PZ, "album-oriented" rock; QA, "album-oriented" rock; QB, "album-oriented" rock; QC, "album-oriented" rock; QD, "album-oriented" rock; QE, "album-oriented" rock; QF, "album-oriented" rock; QG, "album-oriented" rock; QH, "album-oriented" rock; QI, "album-oriented" rock; QJ, "album-oriented" rock; QK, "album-oriented" rock; QL, "album-oriented" rock; QM, "album-oriented" rock; QN, "album-oriented" rock; QO, "album-oriented" rock; QP, "album-oriented" rock; QQ, "album-oriented" rock; QR, "album-oriented" rock; QS, "album-oriented" rock; QT, "album-oriented" rock; QU, "album-oriented" rock; QV, "album-oriented" rock; QW, "album-oriented" rock; QX, "album-oriented" rock; QY, "album-oriented" rock; QZ, "album-oriented" rock; RA, "album-oriented" rock; RB, "album-oriented" rock; RC, "album-oriented" rock; RD, "album-oriented" rock; RE, "album-oriented" rock; RF, "album-oriented" rock; RG, "album-oriented" rock; RH, "album-oriented" rock; RI, "album-oriented" rock; RJ, "album-oriented" rock; RK, "album-oriented" rock; RL, "album-oriented" rock; RM, "album-oriented" rock; RN, "album-oriented" rock; RO, "album-oriented" rock; RP, "album-oriented" rock; RQ, "album-oriented" rock; RR, "album-oriented" rock; RS, "album-oriented" rock; RT, "album-oriented" rock; RU, "album-oriented" rock; RV, "album-oriented" rock; RW, "album-oriented" rock; RX, "album-oriented" rock; RY, "album-oriented" rock; RZ, "album-oriented" rock; SA, "album-oriented" rock; SB, "album-oriented" rock; SC, "album-oriented" rock; SD, "album-oriented" rock; SE, "album-oriented" rock; SF, "album-oriented" rock; SG, "album-oriented" rock; SH, "album-oriented" rock; SI, "album-oriented" rock; SJ, "album-oriented" rock; SK, "album-oriented" rock; SL, "album-oriented" rock; SM, "album-oriented" rock; SN, "album-oriented" rock; SO, "album-oriented" rock; SP, "album-oriented" rock; SQ, "album-oriented" rock; SR, "album-oriented" rock; SS, "album-oriented" rock; ST, "album-oriented" rock; SU, "album-oriented" rock; SV, "album-oriented" rock; SW, "album-oriented" rock; SX, "album-oriented" rock; SY, "album-oriented" rock; SZ, "album-oriented" rock; TA, "album-oriented" rock; TB, "album-oriented" rock; TC, "album-oriented" rock; TD, "album-oriented" rock; TE, "album-oriented" rock; TF, "album-oriented" rock; TG, "album-oriented" rock; TH, "album-oriented" rock; TI, "album-oriented" rock; TJ, "album-oriented" rock; TK, "album-oriented" rock; TL, "album-oriented" rock; TM, "album-oriented" rock; TN, "album-oriented" rock; TO, "album-oriented" rock; TP, "album-oriented" rock; TQ, "album-oriented" rock; TR, "album-oriented" rock; TS, "album-oriented" rock; TT, "album-oriented" rock; TU, "album-oriented" rock; TV, "album-oriented" rock; TW, "album-oriented" rock; TX, "album-oriented" rock; TY, "album-oriented" rock; TZ, "album-oriented" rock; UA, "album-oriented" rock; UB, "album-oriented" rock; UC, "album-oriented" rock; UD, "album-oriented" rock; UE, "album-oriented" rock; UF, "album-oriented" rock; UG, "album-oriented" rock; UH, "album-oriented" rock; UI, "album-oriented" rock; UJ, "album-oriented" rock; UK, "album-oriented" rock; UL, "album-oriented" rock; UM, "album-oriented" rock; UN, "album-oriented" rock; UO, "album-oriented" rock; UP, "album-oriented" rock; UQ, "album-oriented" rock; UR, "album-oriented" rock; US, "album-oriented" rock; UT, "album-oriented" rock; UU, "album-oriented" rock; UV, "album-oriented" rock; UW, "album-oriented" rock; UX, "album-oriented" rock; UY, "album-oriented" rock; UZ, "album-oriented" rock; VA, "album-oriented" rock; VB, "album-oriented" rock; VC, "album-oriented" rock; VD, "album-oriented" rock; VE, "album-oriented" rock; VF, "album-oriented" rock; VG, "album-oriented" rock; VH, "album-oriented" rock; VI, "album-oriented" rock; VJ, "album-oriented" rock; VK, "album-oriented" rock; VL, "album-oriented" rock; VM, "album-oriented" rock; VN, "album-oriented" rock; VO, "album-oriented" rock; VP, "album-oriented" rock; VQ, "album-oriented" rock; VR, "album-oriented" rock; VS, "album-oriented" rock; VT, "album-oriented" rock; VU, "album-oriented" rock; VV, "album-oriented" rock; VW, "album-oriented" rock; VX, "album-oriented" rock; VY, "album-oriented" rock; VZ, "album-oriented" rock; WA, "album-oriented" rock; WB, "album-oriented" rock; WC, "album-oriented" rock; WD, "album-oriented" rock; WE, "album-oriented" rock; WF, "album-oriented" rock; WG, "album-oriented" rock; WH, "album-oriented" rock; WI, "album-oriented" rock; WJ, "album-oriented" rock; WK, "album-oriented" rock; WL, "album-oriented" rock; WM, "album-oriented" rock; WN, "album-oriented" rock; WO, "album-oriented" rock; WP, "album-oriented" rock; WQ, "album-oriented" rock; WR, "album-oriented" rock; WS, "album-oriented" rock; WT, "album-oriented" rock; WU, "album-oriented" rock; WV, "album-oriented" rock; WW, "album-oriented" rock; WX, "album-oriented" rock; WY, "album-oriented" rock; WZ, "album-oriented" rock; XA, "album-oriented" rock; XB, "album-oriented" rock; XC, "album-oriented" rock; XD, "album-oriented" rock; XE, "album-oriented" rock; XF, "album-oriented" rock; XG, "album-oriented" rock; XH, "album-oriented" rock; XI, "album-oriented" rock; XJ, "album-oriented" rock; XK, "album-oriented" rock; XL, "album-oriented" rock; XM, "album-oriented" rock; XN, "album-oriented" rock; XO, "album-oriented" rock; XP, "album-oriented" rock; XQ, "album-oriented" rock; XR, "album-oriented" rock; XS, "album-oriented" rock; XT, "album-oriented" rock; XU, "album-oriented" rock; XV, "album-oriented" rock; XW, "album-oriented" rock; XX, "album-oriented" rock; XY, "album-oriented" rock; XZ, "album-oriented" rock; YA, "album-oriented" rock; YB, "album-oriented" rock; YC, "album-oriented" rock; YD, "album-oriented" rock; YE, "album-oriented" rock; YF, "album-oriented" rock; YG, "album-oriented" rock; YH, "album-oriented" rock; YI, "album-oriented" rock; YJ, "album-oriented" rock; YK, "album-oriented" rock; YL, "album-oriented" rock; YM, "album-oriented" rock; YN, "album-oriented" rock; YO, "album-oriented" rock; YP, "album-oriented" rock; YQ, "album-oriented" rock; YR, "album-oriented" rock; YS, "album-oriented" rock; YT, "album-oriented" rock; YU, "album-oriented" rock; YV, "album-oriented" rock; YW, "album-oriented" rock; YX, "album-oriented" rock; YY, "album-oriented" rock; YZ, "album-oriented" rock; ZA, "album-oriented" rock; ZB, "album-oriented" rock; ZC, "album-oriented" rock; ZD, "album-oriented" rock; ZE, "album-oriented" rock; ZF, "album-oriented" rock; ZG, "album-oriented" rock; ZH, "album-oriented" rock; ZI, "album-oriented" rock; ZJ, "album-oriented" rock; ZK, "album-oriented" rock; ZL, "album-oriented" rock; ZM, "album-oriented" rock; ZN, "album-oriented" rock; ZO, "album-oriented" rock; ZP, "album-oriented" rock; ZQ, "album-oriented" rock; ZR, "album-oriented" rock; ZS, "album-oriented" rock; ZT, "album-oriented" rock; ZU, "album-oriented" rock; ZV, "album-oriented" rock; ZW, "album-oriented" rock; ZX, "album-oriented" rock; ZY, "album-oriented" rock; ZZ, "album-oriented" rock.

**KXKQ 94.1 Bend OR** may suffer a reduction in height if its plans to combine locations with **KICE** and **KTVZ**-channel 21 materialize, says Frank Aden. Reacting to John Ebeling's survey of stereo FM stations carrying monaural sports events in "stereo," Phil Boersma, who works at **WFMG 92.1 Grand Haven MI**, says: "It is probably not possible for some stations to turn off their stereo generator. At **WFMG**, . . . the STL has no provisions for turning a stereo generator on or off that I know of, so our football games come to you live and in pseudo-stereo." **WFMG** has a crack in its transmission line, resulted in leaking gas, with a "terrible low-pitched hum on the carrier." **Grand Valley State College**, licensee of **WSRX 88.5**, has plans to apply for a 50,000 watt educational FM, which in 1-2 years would replace **WSRX Allendale MI**. **Akron's Dave Grim** says: "The increasing practice of raising height/decreasing power has been questionable. . . **WQALs** (Cleveland) signal is more stable in Akron and will certainly help in some hillier areas but the signal is noticeably weaker in the car," implying the same could happen at **WMMs 100.7**, which is going the same route. "Maybe other DXers could comment."

**WCML-FM \*91.7 Alpena MI** [xmtr **Atlanta MI**] will soon be on in 3 with 100000 h.v.; 1170'. A funny FM dialect explanation put in the "Real Paper" by **WEEI-FM 103.3 Boston**, includes calling **WTTK 100.7** progressive hillbilly. **WROR 98.5 Doo-waa, Doo-waa, and WJIB 96.9, I left my Heart in Des Moines**.

**Walter Patton** does not believe **CBOB-FM 100.3 Brockville** exists. "The need for the station would appear to be marginal as the signal from Kingston travels well east of Brockville. A local station break for **CKCW-TV** in New Brunswick inadvertently fed to the network was advertising for a new "stereo 101" to begin in early November (?). The Canadian National Association for the Blind has been holding talks with the CBC with the intent of introducing programs for the blind on their **SCMO** subcarriers. Notice the lack of call letters in this CBC promotion (plus a bonus portion of **WEEI-FM's** dial card).

## CBC STEREO 93.5

CBC Radio's AM Service is heard at 104.7 on the FM dial in Quebec City.

The Quebec Community Network: Weekdays from 9 to 10 p.m., **Quebec A.M.** is heard on the 21 stations of the Quebec Community Network, from Rouyn-Noranda to the Gaspé and from James Bay to Schellerville.

107.9 Chicago  
109.1 Fort George  
109.1 Montreal

A nonprofit group has been formed in Kansas City MO to start a community-access FM station there. They have an antenna donated by **KUDL-FM**, and hope to move some 10-watters off their channels to make spectrum work for themselves.

**Marv Robbins** in FL says "I still belong to **WTFDA**, but only get time to read your column and not much else. Always interested in the changes taking place in FM. Too bad there isn't much variety on FM here—seems as if the good music stations are going to rock. . . All use slogans now: **WQYK 99.5 Tampa** is "K-99," **WRBQ 104.7 Tampa** is "Q-105," etc."

**W. T. Ryan** tried out his new **Karkota SCA** adapter on **CFMS** just as their main channel was advertising their "golden sound" music service. "I pushed in the tape monitor button and background music appeared! The May, 1971 **Electronics Illustrated** had an article about building an **SCA** adapter using a **CA 3023 IC**; perhaps the **CA3023E** is an improved version of that. **Budget Electronics (Electronics Hobbyist)** in the U.S. has a construction article for a "Super Soother" **SCA** by **Herb Friedman**, using two **ICs**, an **NE531T** and an **NE565A**. Also, the 1978 **Electronics Experimenter's** handbook has an article about phase-locked loops, including a circuit for an **SCA** decoder. **KRAB Seattle's SCA** has the best sound with its **Radio Cadena**, Spanish programming. . . I'm getting rather blasé about that adapter already. Anytime I want **SCA**, I just push in the tape monitor button and those mystery stations appear." Heard testing: **WBTF 101.7 Attica (Batavia) NY**. On with a good \$signal: **K272AK 102.3 Davenport IA**, translating **KUNI \*90.9 Cedar Falls IA**. Contributors this issue: **Frank Aden**, **Scot OR**; **Phil Boersma**, **Spring Lake MI**; **Jim Centre**, **Dallas TX**; **Michael Davis**, **Durham NC**; **Phil Fiesner**, **Fairbanks AK**; **David Grim**, **Akron OH**; **Nick Lombardi**, **Atlanta GA**; **Walter Patton**, **Montreal PQ**; **Dave Pomeroy**, **Tucson AZ**; **David Reader**, **Joplin MO**; **Les Price**, **Warren MI** (also has temporarily left **DXing** when he gets more settled to Detroit life); **Phil Price**, **IL** is 313-757-4498; **J. Robertson**, **Crossville MI**; **W. Robbins**, **Temple Terrace FL**; **W. L. Ryan**, **Victoria BC**; **Mike Scheel**, **Davenport IA**; **Don Simon**, **W. Palm Beach FL**; **Andy Smith**, **Rockville MD**; **Paul D. Trask**, **Buffalo NY**; **David Williams**, **Murksboro NJ** (also announced a **WJSV 99.5** there; its on 11-10 weekdays and 4-10 pm weekend(s), plus a person who did not sign his name but supplied much northern Wisconsin **FM** news from an address in Germantown WI.

The manager of **KPCG 102.5-Joplin MO** says he enjoys **FM DXing**, and hopes to have some **QSL** cards printed.



The Gospel Music Station

P. O. BOX 212 JOPLIN, MISSOURI 64801  
(817) 781-8805

### WBCN

Stop the War Now  
Bonzo Dog Band, Electric Prunes, Country Joe MacDonald

### WEEI/FM

Honest Soft Rock  
Stevie Wonder, Carly Simon, Janis Ian, The Eagles

### WCRB

Symphony  
Cleveland Symphony, London Symphony, Cleveland Symphony

# QSL CORNER

Thomas J. Vingling, Jr.  
221 Pinewood Road  
Baltimore, MD 21222  
Phone # 1-301-282-5649  
Deadline: 10th

GN CJRT	91.1	Toronto, 297 Victoria St., M5B 1M1. Letter from K. Poling, Eng dept. Zank.
AL WRES	105.7	Troy, P.O. Box 708, 36001. Friendly letter & coverage map from R. E. Shelley, Owner, in 1 week. Lowery.
OTVY	95.5	Ottawa, P. O. Box 1089, 36301. Brief letter, 2 maps & business cards from Jim Powell, PD in 3 weeks. Lindblade.
FL WQXQ	101.9	Dayton Beach. Dick Clark, Executive Vice Pres. writes, saying "To the best of my knowledge, your letter represents the furthest distance was ever heard" Letterhead shows AM calls, WDFJ & FM freq. but no fm call. Elving.
WJLQ	100.7	Pensacola. Gordon Towne, VP & GM writes on a unique letterhead that held one way is for WJLQ, Q-100 & flipping it upside down is WQDA Radio-13. Elving.
GA WABE	90.1	Atlanta, 740 Bismark Rd NE, 30324. Letter from Van Joyner, PD in 5 weeks, "...it boggles my mind to know that our signal was being received in Canada, while some listeners in a thirty mile range complain that their reception is not so snuff. Sawatzky.
IL WQFL	100.9	Rockford, 5500 E. Riverside Blvd, 61111. Letter in 5 months from Duwayne Walker, WNPAP, "I share your pleasure in DX work, probably more so in the tv-fm bands than in the amateur radio bands. Sawatzky.
IA KSEZ	97.9	Sioux City, Box 177, 51101. Letter signed by Gerry Gibbs, CE. QSL was a copy of a prepared QSL, but had note type to me on bottom thanking for tape. Report for 6-10-77 arrived 6-25-77. Aden.
KV WLR5	102.3	Louisville A long-delinquent station, with verification from David C. Burns, CE. Letter says "LR5-102" with no mention of a "U". Elving.
WKVQ	93.3	Paducah, 218 N.6th, 42001. Letter from J. B. Fowler, CE in 5 days. "We have received other reports from your country in the past, but under the conditions you described." (meteor scatter) Coverage maps also. Sawatzky.
LA WWL	101.9	New Orleans, 1024 M. Rampart St, 70176. Letter from Hugh R. Bunnay, Dir of Tech Services "Congratulations! This is the finest report on fm received by us." Sawatzky.
WQUE	93.3	New Orleans, 1440 Canal St, 70112. Letter & sticker in 16 days from Larry Getz, VP & GM. "I believe that your report is the most distant one we've received." Sawatzky.
ME WPEC	92.9	Bangor, Box 1105, 04401. Letter from Donald S. Winslow, CE in 6 weeks. "...our best dx report..." WPEC went on the air 6-9-76 & I caught them on 6-16-76. Sawatzky.
MN K5JR	90.1	Collegeville, 56321. Send letter signed by Mark William, Station Manager. Mentioned received a report from Baltimore (?) (that was me, ed.) QSL received June 23 for June 11 report. Aden.
K5JR	90.1	Same as above, only he says "I have received another report of someone picking us in Bend, Oregon around the same time you reported us in Maryland! Reply in 11 days. Vingling.
MSCO	92.9	Duluth, College of St. Scholastica, 55811. Letter from Alan Searle in 3 weeks. Station is a member of Minnesota Public Radio. Vingling.
KXRA	92.7	Alexandria, 5630A. Letter & map from Wendell Sowers, CE. This was my first Minnesota fm a/c'd. Vingling.
NM KOPE	104.9	Las Cruces, Drawer X, 88001. Letter signed by Bill Bohart, PD, said if I'm ever in Las Cruces to stop for a tour. Aden.
ND K5JB	93.3	Jamestown, P. O. Box 600, 58401. Letter from Harvey G. Van Eken CE. in 2 weeks. Walker.
OR KOAP	91.5	Portland, Oregon Educational & Public Broadcasting Service, Box 1097, 97207. Letter & bumper-sticker from Bob Roberts, Producer/Announcer & Bob Morris, Eng Dept. in 22 days. Sanford.

Reporters are Neil Zank, Lincoln, NE; Grey Lowery, Cadwell, GA; Roland Lindblade of Omaha, NE; Bruce Elving of Duluth, MN; Peter Sawatzky, Waterloo, Ont; Frank Aden, Bend, OR; Bob Walker, Westport, KY; & myself Tom Vingling. This was an all FM QSL month with alot of states reported. I found some more reports that have not used, so I still have more to use. I would like to thank all reporters for there support with this column. It looks good to have a full page each month. Good news here for me, at work I got a promotion. 73's and good dx.

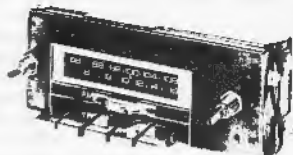
*Tom*

NEXT MONTH'S GALA TENTH ANNIVERSARY ISSUE IS NOT TO BE MISSED...NOR IS THE NEW, EXCITING FACE OF THE QSL UNDER THE EDITORSHIP OF FRANK ADEN, STARTING IN FEBRUARY. DON'T MISS OUT ON ALL OF THE 1978 EXCITEMENT! RENEW NOW!!

# FM IN YOUR CAR

## PART 2

In the previous CAR FM feature, we discussed FM reception and antennas. This last article will cover the most important subject, the receiver itself. Five major topic areas will be examined: major receiver qualities, set categories, special receiver features, accessories and buying your FM radio.



### Major Receiver Qualities

In this section, we will cover some of the more important performance qualities that an FM auto radio should have and will examine a few of the descriptive terms used to define radio operation.

**Sensitivity.** Because receiver sensitivity is rather easy to measure, it has been given tremendous importance by manufacturers. Superficially, it appears that a more sensitive radio will pick up more stations or will hear stations that are farther away. This might be true if there were only one station on the air; however, in today's crowded FM band other factors are equally important. To add to the confusion, auto radio manufacturers use several different measures of receiver sensitivity: limiting, quieting and IHF. Although related, these are not the same thing; and comparisons are misleading unless the same types of measurements are used.

**Selectivity.** One factor having a heavy influence on receiver sensitivity is selectivity. Selectivity describes the ability of a receiver to reject unwanted signals. This occurs both in the receiver front end and the IF section. What we are primarily interested in at the moment is the IF since it provides most of the radio's selectivity. Because an overly narrow IF bandwidth creates distortion and stereo problems, receivers are not designed to provide much rejection of the adjacent channel ( $\pm 200$  kHz). Numbers of 6 to 20 dB are practical; and, fortunately, stations at this spacing tend to be far away and weak. Two channels away (or  $\pm 400$  kHz) or farther, high selectivity is desirable and necessary. Only a few minutes study of the FM Atlas will convince you why this is so. When you consider that an auto radio can easily be driven by a station's transmitter that you don't want to hear, a good case can be made for even better rejection in the car set as opposed to a home set that never gets subjected to this condition. Rejection of 80 dB or more is practical and almost essential.

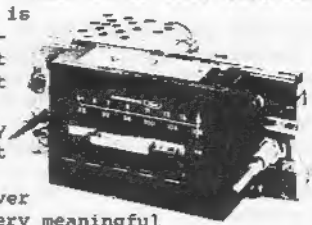
**Capture Ratio.** Capture is the ability of an FM receiver to ignore the weaker of two signals. The better a receiver's capture ratio (smaller number), the better it will listen when interfering stations (on or off channel) are present. Capture ratios of 2 dB can be considered average or good. Anything around or under 1 dB is excellent.

**AM Rejection.** During the process of multipath distortion, as was explained in Part I, an FM signal becomes both phase and amplitude modulated. These are the cause of the audible distortion. Since FM receivers inherently respond to frequency or phase changes, little can be done about that part of the problem; however, an ideal FM receiver does not respond to amplitude changes at all. In this regard, AM Rejection shows how close to ideal a particular radio is. Unfortunately, manufacturers seldom provide much information about AM rejection (or capture ratio, either). What you usually



get is a measurement at a single signal input level or some kind of average. You might even be the suspicious type and think that the level used is the one giving the best results! What is really needed is a curve showing AM rejection (and capture ratio) versus input over the 1 to 100 uV area. Obviously, the higher the AM rejection the better the set is. An additional benefit of both AM rejection and capture is in the radio's ability to suppress ignition noise, both yours and the other guy's.

Overload Rejection. Most people don't realize how easy it is for the designer to make his receiver have high sensitivity. (Read that over several times!) The real challenge is to design one that will also handle strong signals and yet not sacrifice sensitivity. While it is true that only a small percentage of the average listener's time is transmitters, the noises associated with overload are among the most trying to enjoy one station, it to have one or more other stations. Unfortunately, you can buy receiver or tuner and find that a problem; but the degree of tainly a good measure of receiver probably find little that is very meaningful load specifications provided on receivers since the test procedures are not very standardized. Some of the important terms you may see are spurs (spurious responses), image rejection and IM (intermodulation) rejection. In all cases, the higher the numbers the better the radio; but be cautious of comparing different brands since the measurement method is probably different. A little later on in this article we will describe some receiver features that help to lessen overload.



spent close to ciated with receiving. When is very frustrating tions suddenly pop the most expensive overload is still severity is cer-quality. You will in the way of over-

### Categories of Sets

Because of different design philosophies and marketing strategy, it is useful to categorize FM auto radios by their country of origin. Almost all the radios available come from Japan, Europe or the U.S.

Japan produces the widest variety of sets and aims mainly at the lower end of the price range. Performance is, therefore, the most variable in Japanese products. Radios tend to be small in size so as to fit the greatest number of different cars. While small size is not necessarily a penalty, it does restrict the designer's options in making a quality receiver. The fact that Japanese sets often include a tape player does imply crowding of radio circuits and almost inherent lower quality. On the other hand, Japanese receivers offer the greatest variety of types and features.

A fairly recent trend in Japanese receiver designs is to copy the fronts of U.S. original equipment sets. These radios are then sold through dealers. Many people are not even aware of what they are getting and think they have an original equipment radio. More about this later.

Typical Japanese radio manufacturers include: Panasonic, Audiovox, Boman, Pioneer, Automatic Radio, J.I.L. and Motorola.

European FM sets primarily show up in their exported cars and are mainly modified versions (altered frequencies and bands) of radios sold there for their considerably different radio systems. Because European stations tend to be located away from populated areas, reception there tends to be fringe. For this reason, European receivers tend to have high sensitivity. This almost always implies lessened overload performance. While these radios are likely to be good performers here in rural areas, their performance will not be as

favorable in our cities. The closer European frequency spacings require their radio designs to have narrower IF selectivity, and this tends to degrade stereo performance to some degree. While the overload characteristics and narrower selectivity problems might make these radios less desirable for the general listener, the DX-er might find them quite suitable for the same reason. The major European radio manufacturers are: Blaupunkt (Germany), Becker (Germany) and Philips (The Netherlands).

U.S. auto radios are almost exclusively manufactured by the major auto companies themselves. G.M., Ford and Chrysler each have separate radio divisions: G.M.'s Delco Electronics Division, Ford's Electrical and Electronics Division and Chrysler Electronics. Motorola, in addition, makes some radios for Ford, Chrysler and American Motors.

As a group, American auto radios tend to be larger in size than foreign sets since our cars are larger in size. This has allowed for greater ease of automatic assembly which is necessary to compete in price with foreign labor that costs much less. Receiver designs tend to be of very high quality and stress deluxe and automatic features especially in the AM/FM and stereo sets. For this reason, domestic radios occupy the upper middle portion of the price range. Because U.S. radios are virtually all original equipment, they are styled to match the particular vehicle in which they are installed. With perhaps only a few exceptions, all mount in-dash.

The second means of categorizing auto radios is by features other than FM. There are, of course, sets with no FM; but we will ignore them in this article. On the other hand, virtually all FM radios do include AM. In addition to AM tuning, the other major features include:

1. Manual Tuning
2. Pushbutton Tuning (with manual)
  - a. buttons shared between AM and FM
  - b. buttons select different stations on AM and FM
  - c. miscellaneous (buttons used for AM/FM selection, etc.)
3. Electronic Tuning/Signal Seeking
4. Tape Players
  - a. 8-Track (stereo and 4-channel)
  - b. Cassette
5. Tape Players/Recorders (Cassette only)
6. CB Transceivers \*
7. Digital Clocks
8. Shortwave Bands

In addition to the above full feature radios, there are at least two other types. The FM converter can be connected to an existing AM radio to allow for FM reception. Since converters are very low in cost, their performance is virtually guaranteed to low in quality; and they should not be considered by the serious FM DX-er. The other type is the separate FM tuner which can be mated with an auto sound system of your own choice. Since only a few of these are currently available, your choice is likely to be very limited. One system worth special mention is that made by ADS which can include a synthesized FM tuner, high power amplifiers, two-way speakers and a top quality cassette player/recorder (by Nakamichi).

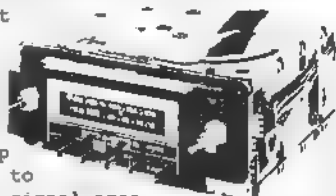
#### Special Receiver Features

In this section, we will discuss several receiver designs or features that will be of interest to the FM DX-er; however, the general listener may find these attractive, too.

Local Distance Switch. As stated earlier, overload is a serious nuisance to reception in many cities; and methods for reducing this problem have long been sought. The Local/Distance switch found on some radios is one attempt to do

this. Overload testing of receivers has shown that simply reducing the signal level at the input of the radio will help the overload problem. Unfortunately, signals likely to be bothered by overload are weak and will only become weaker in the "Local" mode. However, if the signal reduction is only a small amount, a highly useful compromise can be reached since it is much nicer to listen to a slightly noisy signal rather than one that may be stronger but frequently is interfered with. Looking at the Local/Distance switch from a different angle, it is fair to say that some receiver designs are more in need of help than others. Since L/D switches are more often found on low-price, lower performance sets, one might suspect that in all cases one implies the other. This would be a dangerous generalization, but it would be reasonable to expect the designer of a more expensive product to do a better job.

Certain Ford and G.M. radios incorporate a feature that may be considered an automatic Local/Distance switch. This turns out to be a very useful compromise as radio sensitivity is adjusted in relation to the strong signals being received at the moment rather than just two positions as in the manual variety. While the problem of overload is not solved, break-in interference is greatly reduced making listening quality much more pleasing. The automatic feature also means that the user is not bothered by having to flip a switch when overload occurs nor does he have to remember to reset it when he leaves the strong signal area.



The G.M. set pictured in this paragraph is the one having this feature. Note the similarity of the radio on the first page of this article, which happens to be an after-market "equivalent."

Automatic Stereo Blend. The same models of G.M. radios having the automatic L/D circuits also have an automatic stereo blend. As the signal being received gets weaker, stereo separation in these radios is smoothly reduced from full stereo to mono. The abrupt stereo/mono switching found in many radios is thereby eliminated. Since this transition can be every bit as annoying as noise, the improvement in listening quality is quite evident especially in areas of rapid signal flutter.

Ignition Noise Blanker. A few radio models (notably Philips) include an impulse noise blanker which greatly reduces the annoyance of ignition noise. While not a substitute for good vehicle noise suppression, this blanker does make reception noticeably cleaner and more enjoyable.

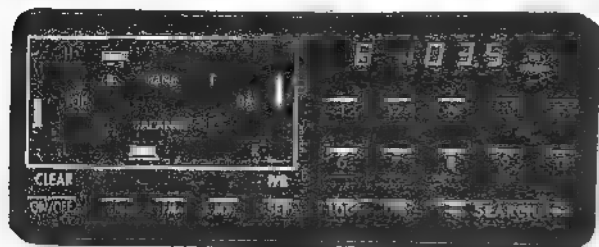
Digital Dial Radios. Of all radio listeners, the DX-er has the most to gain from the introduction of the digital dial receivers. G.M. introduced a combination digital radio/clock in their 1977 cars, and both G.M. and Chrysler now have some exciting new models in the 1978 cars. In these sets, both FM and AM frequency are displayed with full digital accuracy. If you've cursed at the accuracy of the mechanical pointer and dial, your troubles are now over. No more guessing at frequency, and you even have a digital clock to log by!

G.M.'s 1977 version (also available in 1978) uses a counter to measure both AM and FM oscillators and converts that to receiver frequency. Otherwise, this radio works in normal fashion with both push buttons and a manual tuning knob. (This same radio also has the automatic L/D switch and stereo blend systems described above.)

The 1978 designs offered by Chrysler and G.M. go one step beyond. These are frequency-synthesized radios. Tuning will be completely controlled by digital circuits with precise accuracy. The advantages of this tuning method are quite numerous. The inaccuracy of mechanical tuning is eliminated as is the mechanism needed for signal seeking. Other electronic tuning systems such as scanning and memory become fully feasible. The G.M. synthesized radio looks

much like a conventional radio in that it has a rotary tuning control and push buttons for station selection. Tape player and digital clock features are also included. The Chrysler synthesized radio is a total departure in styling. Its control panel is pictured below. Frequencies may be entered digitally from a keyboard or scanned automatically by a Search control.

No manual tuning knob is provided or necessary.



And, while the probable cost of these radios will limit them to only the more affluent DX-er or radio purchaser, they represent a probable direction for receiver designs to come that will be affordable by all of us.

The DX-er has the most to benefit. Gone will be the days of frequency drift and inaccurate dial calibration. Those of you who have been able to afford synthesized home receivers probably have some thoughts on the matter that run both pro and con to synthesized tuning. The main factor is the inability to tune off-center in reaching a weak station next to a strong one. It is very possible that there may be some compensating factors in the car. The car can readily be moved to reduce the unwanted signal's strength or favor the weaker signal. And, the elimination of AFC (automatic frequency control), which is needed on the usual auto FM set to improve tuning feel and reduce frequency drift, may make center channel tuning a big improvement. Clearly, it will be unnecessary to try these radios and find out.

### Accessories

Since we've already covered antennas in Part I of this series, the only remaining accessories left are preamplifiers and speakers.

Preamplifiers. Intended to go between the antenna and radio, the preamplifier is simply an untuned amplifier. A long-winded argument can easily be conducted on the merits of these devices so instead let's just settle for some quick pro's and con's. The gain provided by a preamplifier could very easily have been put in the radio in the first place; and a radio needing this kind of help is not really DX equipment in the first place. On the other hand, should you be stuck with a particular radio for some reason and it lacks sensitivity, a preamplifier might just make the difference in sensitivity you need. But, be forewarned that receivers get much of their overload performance from tuned circuit selectivity, and an untuned preamplifier cannot possibly help you in strong signal areas.

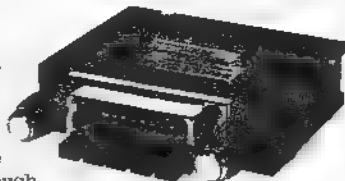
Speakers. Auto radio speakers range in size from about 3 inches to 8 inches in diameter and include irregular shapes such as 6 X 9 inch oval. Compared to the 15 inch speakers some of us have at home, this sounds pretty spartan.

But, if you dig into the inards of your car and look for places to put speakers, you'll probably conclude that the designer did a pretty good job in getting in what he did. Fortunately, the car is a fairly good environment for sound. Car surfaces are mostly quite reflective, and sound can be made to penetrate the entire car with little trouble. And, speakers placed close to

the ear act something like headphones. There are probably few of us who haven't heard the startlingly real sounds that those devices can produce. On the other hand, the noise environment of the car (even the ones advertised to be quiet!) makes it unlikely that you'd be able to hear the extended highs or lows that might result if you could find space for your home speakers in your car. For those who don't agree, several speaker manufacturers are now offer

"hi-fi" speakers for the car. If the idea sounds attractive to you, be sure that you make a side-by-side comparison with your existing speakers on similar program material before you buy.

Speaker locations have quite a bearing on sound quality. Ideally, they should be located where they radiate directly at your ears without the sound being absorbed by the seats or your body. The front or top of the dashboard and the rear package shelf are the preferred locations. The top of the front door is also fairly good although sound from this position does not reach the rear seat quite as well. Mounting on the bottom of the doors or the kick panel underneath the dashboard results in sound that is muddled by the upholstery or the passengers themselves before it can be heard.



### Buying Your FM Radio

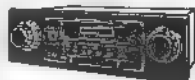
There are FM auto radios to suit almost any budget. Prices range from under \$20 to over \$1000. Converters cover the low end of the price range; and one very elaborate remote-controlled radio/cassette recorder model for the Mercedes-Benz is in the \$1000 price class.

Auto radios are most generally bought in one of three ways: from the dealer as part of a new car, from a discount house for your own installation or one of the specialty shops that both sell and install. Should you compare prices, be sure that you include the cost of all items needed to make the radio work in your car. This includes the radio itself; an antenna; speakers; noise suppression parts required for your particular car; and any installation costs for the radio, antenna, speakers and suppression hardware. It would be wise to "test drive" a radio of the type you plan to buy to make sure that it suits your needs. Consider also the dealer's warranty plan for the radio. Some will have their own repair facility or can refer you quickly to a nearby one. The most desirable arrangement is for the dealer to merely exchange radios with you when problems occur within the warranty period.

One word of warning: When considering buying from a car dealer, be aware that some dealers will install either factory or after-market sets (usually a Japanese variety looking much like the factory set). Since the after-market set probably costs him less than the factory set, you should expect either a lower price or a factory set if no reduction is offered. If you are considering a hang-on radio to go below the dash, check first with your insurance agent to see if such an installation will be covered.



We do hope that this series of articles has provided something of interest to you whether you are on the



verge of buying FM for your car or are now on your tenth set.

As mentioned back in Part One, we would be happy to try and answer any questions this series has generated. Your question and answer will appear at a later date in VUD for the benefit of all readers. Send your questions to: VUD Editor, Clarke Ingram, 5201 Colewood Drive, Pittsburgh PA 15236. 73 and good listening.

NEXT MONTH: WFD's SPECTACULAR TENTH ANNIVERSARY ISSUE, FEATURING CLASSIC MATERIAL FROM VHF-LHF DIGESTS OF THE PAST. INCLUDED WILL BE AN EXTENSIVE "DX BIBLIOGRAPHY"...A LOOK AT "WHAT IS NORMAL FOR TV-FM DX"...ALL-TIME DISTANCE RECORDS FOR TV-FM...AND MUCH, MUCH MORE. THERE NEVER HAS BEEN, NOR WILL THERE BE, ANOTHER ISSUE LIKE IT. BY ALL MEANS...DON'T MISS YOUR COPY! RENEW NOW!





# VHF UTILITY DX

Pat Dyer  
5315 Silvertip Drive  
San Antonio, TX 78228  
Deadline: 10th of month

DECEMBER 1977

Hank Holbrook, 7211 Chestnut St., Chevy Chase, MD 20015 QSLed, GMT used

6-26: 2045, KSG 461 42.38 Wausau, WI (State Patrol, 200', 150 watts)  
2047, KRB 464 42.38 Wittenberg, WI (S. Patrol, 160', 120 w)  
2047, KSB 432 42.38 Tomahawk, WI (S. Patrol, 280', 330 w)  
7-1: 0127, KAD 966 39.58 Lyndon, KS (County Sheriff, 65', 100 w)  
0131, KAD 731 39.58 Cottonwood Falls, KS  
0133, KBU 520 39.58 Emporia, KS (sheriff, 100 w)  
0134, KAG 731 39.58 Seneca, KS  
0134, KAB 248 39.58 Ottawa, KS (County Sheriff)  
1626, XJB 226 42.06 Marathon, Ontario (Prov. Police, 603 w)

Martin J. Theil, 12 Princeton Dr. E., Holiday, FL 33589 Oct loggings

KDP 528 154.400 Clearwater, FL-f KGB 839 33.94 Pasco, FL-f  
KUN 498 154.445 Clearwater, FL-f KIA 653 154.22 Tampa, FL-f  
KFG 602 154.130 Hillsboro, FL-f KFG 602 154.175 Tampa, FL-f  
Clearwater pagers: 155.400, 152.240, 152.480 (KGB 921), 152.005.

490.712 St. Pete. (WLCY) 487.750 Tampa (WUSF)

170.15 New Port Ritchey (WGUL) 161.75 Winter Park (WPCV)

152.540 St. Pete. (WSUN)

"Am 6 ft above sea level ... and 4 blocks from TV Ch 10 tower 500' ..."

Now, my loggings. Hallicrafters SX-62, Hammarlund SP-600-JX-10; two 30' long wires at 12' run ne-sw & nw-se; all F2 unless noted with daily MUF's noted; bs-backscatter; t-tentative; new underlined; GMT used VOR's on Heathkit GR-98 with 6-el PM antenna at 20 ft with rotor

<u>10-11:</u> 2058, 38.85	<u>20:</u> 1600, 40.24	<u>30:</u> 1959, KEE 873
2115, 30-32 US	1850, 31/ US	2012, KEJ 451
<u>12:</u> 0004, AFRTS t	<u>21:</u> 1815, sol.noise	2015, KOA 796
0013, KLF 527	2015, 38.29	2019, KUA 288
1614, low-43	2027, 33.90 US	2027, KOK 418
1759, KBZ 283	2317, KLF 527	2029, KCE 816
1803, KCE 581-t	<u>22:</u> 1808, KLF 527-t	2030, <u>KRX</u> 455
1806, KCB 897	1915, mid-30 US	2032, KCD 472
1818, KCA 633	2012, 37.57	2034, KCA 611
<u>13:</u> 1635, 30.42 Can	<u>23:</u> 2030, 35.28	2039, KBZ 283
2026, 37.57	<u>24:</u> 1755, 30.42	2055, KCD 411
<u>14:</u> 1955, hi-31 US	2045, 36.15	2059, KCA 695
2003, 37.57	<u>25:</u> 2100, 35.28	2100, KFS 33.78
<u>15:</u> 1849, KKV 690 bs	<u>26:</u> 2030, 36.35	2103, KBB 990
1854, 6WW	<u>27:</u> 2015, 35.88	KCA 585
1856, 38.85	<u>28:</u> 1328, KIM 905 (Es)	2105, KFS 34.05
2028, KSS 922	1329, KGA 805 (Es)	2112, " 34.37
2100, KCA 695	1442, KCA 585	2115, KPH 34.17
2119, KCA 585	1710, "PMT" (Es)	2140, KOP 303
<u>16:</u> 1833, 30.42 Can	1712, "ISPI" (Es)	2155, KCC 825
2120, 37.57	1945, 40.52	2205, KLF 527
<u>17:</u> 1810, 6WW	2140, KLF 527	2225, KSV 810
1839, hi-33 US	<u>29:</u> 1830, 35.78	<u>31:</u> 1800, 30-32 US
1930, 40.85	1855, hi-33 US	1930, 32.96
2328, KLF 527	2223, KLF 527	<u>11-1:</u> 1930, mid-30 US
<u>18:</u> 1845, 30-32 US	<u>30:</u> 1916, KCD 353	2100, 35.28
2020, 47.42	1921, KCC 672	<u>2:</u> 1940, mid-30 US
2239, KLF 527	1924, KCD 244	2215, 35.78
2315, KKV 690 bs	1930, KCA 378	<u>3:</u> 1800, 31/ US
<u>19:</u> 1650, 31/ US	1927, 35.90 US	2110, 35.78
2010, 41.62	1933, KCC 957	<u>4:</u> 2105, KOH 894
2122, KLF 527	1937, KLU 346	2139, KSV 810
2343, OK City bs	1942, KCB 897	2150, 38.97

4	2119, KOP 303	7:	1710, KKV 690 tr	10:	1749, KCA 585
	2133, * 35.62		1730, 30.42 Can		1759, R. Canada
5:	1700, 31 $\frac{1}{2}$ US		1755, 35.88		1800, KJR 354
	1903, 36.45	8:	1855, 30.42 Can		1808, KOP 303
6:	1655, 35.58 bs		1920, 38.76		1937, 45.42
	1715, 31 $\frac{1}{2}$ US	9:	1715, 31 $\frac{1}{2}$ US	11:	0159, KAA 893 (Es)
	1905, 35.28		1820, 35.28		

also some 30.21 and 30.52 BBC harmonics likely from the Ascension Is.  
relay: details hopefully later

APRTS	30.66	Delano, CA-ha	KEJ	451	33.78	Toms River, NJ-cf
KAA 893	35.22	St. Louis, MO-tp	KPS	----		Palo Alto, CA-hac
KBB 990	33.54	S.Deerfield, MA-f	KGA	805	35.22	Pittsburgh, PA-tp
KBZ 283	33.90	Orford, NH-rf	KIM	905	35.22	Charlotte, NC-tp
KCA 378	33.78	New Haven, CT-f	KJR	354	33.90	Seattle, WA-f
KCA 585	33.90	Plymouth, MA-f	KKV	690	35.62	Houston, TX-tp
KCA 611	33.90	Carver, MA-f	KLP	527	35.22	Honolulu, HI-tp
KCA 633	33.--	Middleboro, MA-f	KLU	346	33.78	Manchester, NJ-f
KCA 695	33.78	Manchester, NH-f	KOA	796	35.58	Portland, OR-tp
KCB 897	35.66	Portland, ME-mp	KOH	894	33.70	Winslow, WA-cf
KCC 672	33.94	S.Windsor, CT-f	KOK	418	35.46	(west)-mp
KCC 825	33.70	Kennebunk, ME-f	KOP	303	35.46	Langley, WA-mp
KCC 957	33.70	Bethel, CT-f			35.62	
KCD 244	33.70	Falmouth, MA-f	KPH	----		Bolinas, CA-hac
KCD 353	33.70	Lancaster, MA-f	KRX	455	33.48	Highland, NY-f
KCD 411	33.94	Unionville, CT-f	KSS	922	33.10	Ipswich, MA-amb
KCD 472	33.94	Windsor Locks, CT-f	KUA	288	35.22	Portland, OR-tp*
KCE 581	33.70	Athol, MA-f	6WW		33.90	Senegal, Africa-hac
KCE 816	33.58	Southington, CT-f	-		35.58	OK City, OK-vp
KEE 873	33.86	Salem, NJ-cf	R. Can.		35.64	Sackville, NB-ha

amb-ambulance; f-fire, c-county, r-regional; ha-harmonic (c-cw);  
mp-mobile phone; tp-tone pager (with A2 Morse ID) \* voice ID;  
vp-voice pager as well

The effects of solar fluxes in the 90's are well demonstrated in the amounts of US F2 showing up this fall. Consistent activity such as this has not been evident since 1973 (or even 1972). Judging by the 10-m openings (some days with all the continents in) the transoceanic DX above 30 MHz should have been plentiful, particularly for those on the coasts. The Oct 30 events were the most striking with 35-MHz into each coast simultaneously. The transcontinental MUF that afternoon should have been rather close to 40 MHz. And, most importantly, this didn't even require a magnetic disturbance to get it going.

So, again, I urge those members with the 30-50 equipment to start looking for the F2 DX that is now upon us. If you've only been listening in that range for just the last few years (and thus heard only Es) you're going to find a lot of differences. F2 MUF's are incredibly sharp, so much that there is a distinct time lag in the fade in/out of the low end of 33 MHz (hospitals, ambulances) and the high end (fire departments). So a few 100 kHz can make the difference between a lot of signals and nil.

Other things to shoot for are the pagers and mobile phones in 35-36 MHz; police/sheriff in 37-38 MHz; more police/sheriff 39-40 MHz. With all the "Police Call" books etc out, ID's should not be the problem they were a few years back.

In terms of solar flux levels, Cycle 21 is rising at a rate much better than Cycle 20 did, though not as fast as Cycle 19. If this continues, the prospects for 50-MHz paths to South America in March-April would be the best since 1972.

73, Pat

WA5IYX

# PHOTO-NEWS

Jim Alexander  
4 Brook Court  
Marsippany, NJ 07054

December, 1977

It would have been more appropriate to note last month (with the black-and-white remakes of Steve West's 870 mile catch of WSWB-35 in that column) that in general, color photos are not accepted for use in this column. Space did not permit, however, so your editor will take the opportunity to repeat this here for new members. Color photos are acceptable only in special cases. If you have something unusual, but it is a color print, send it to your editor and we'll see if a way can be found to use it.

Editors have been asked to mention that in next month's 10th Anniversary issue of the VUD, regular columns will not appear. PHOTO NEWS should return in the February VUD.

**Guidelines for reporting:** When sending photos for use in this column, please include as much of the following information as possible: 1) Call letters and location of the station photographed; 2) Location of reception and distance from station; 3) Mode of propagation by which the station was received; 4) Date (and, if possible, time) of reception. If a photo of equipment is sent, include details of the equipment shown.

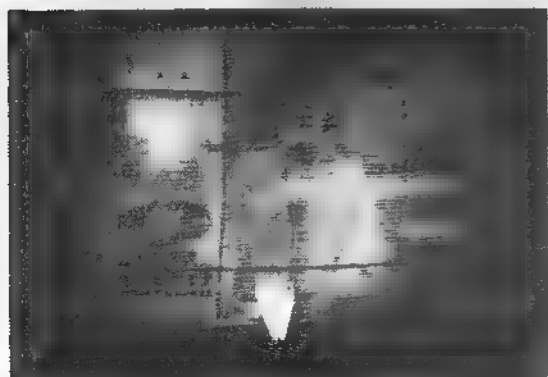
This month, PHOTO-NEWS presents a column of TV-DX, including a photo of a station from an area most of us don't often get a chance to see. Be sure to see Richard Clark's photo of WBNB-10, St. Thomas, Virgin Islands!



WBNB-10 St. Thomas, Virgin Islands  
450 mile tropo (Clark)



KNOP-2 North Platte, NE  
1,115 mile E-skip  
6/28/76, 1410 EWT (Brindie)



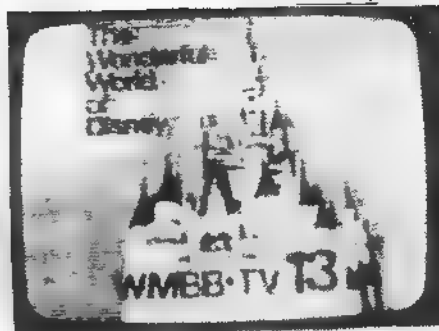
KATU-2 Portland, OR  
745 mile E-skip (Pizzi)



KQTV-2 St. Joseph, MO  
E-skip (Williams)



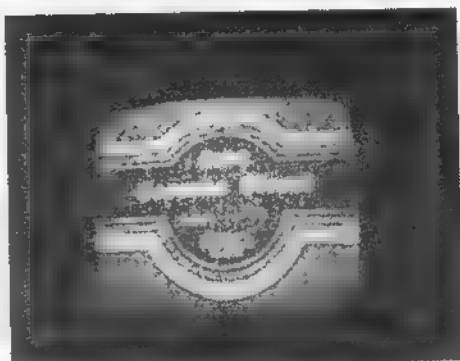
KOTA- 3 Lead, SD  
E-skip Gaines)



WMBB-13 Panama City, FL  
265 mile "built-in" tropo (Combs)



WSNS-44 Chicago, IL  
405 mile tropo (Battin)



WLVT-39 Allentown, PA  
555 mile tropo  
9/27/74



CBWFT 3 Winnipeg, Manitoba  
E skip  
5/22/71 (Aden)

# Contributors:

- Richard Clark,  
Santo Cerro, Dominican Republic
- Ed Brindle, Latrobe, PA
- Jim Pizzi, Orcutt, CA
- Robert Williams, Twin Falls, ID
- Paul Gaines, Detroit, MI
- John F. Combs, Orlando, FL
- Buck Battin, Duluth, MN
- Jim Gould, Kokomo, IN
- Frank Aden, Bend, OR

Wishing a joyous holiday season  
to all...

*Jim*

# Memorabilia

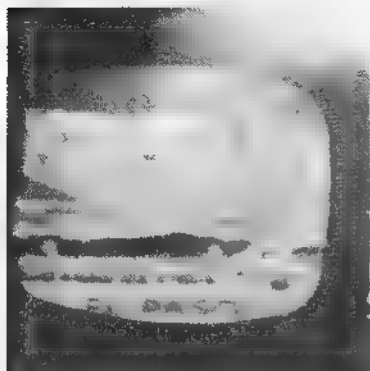
December 1977



Robert J. Williams  
251 6th Avenue East  
Twin Falls, Idaho 83301  
Phone: (208) 733-3621  
Deadline: 10th of Month

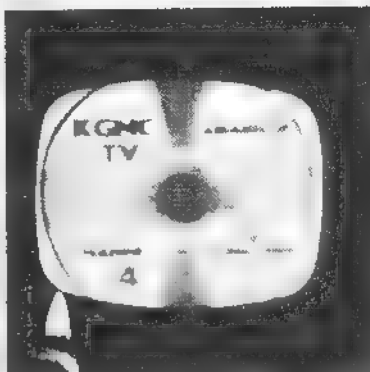
## "MORE PHOTOGRAPHIC MEMORIES OF GREAT DX MOMENTS"

This month, MEMORABILIA once again takes you back through the corridors of time for a look at some more memorable DX catches, thanks to the magic of Man's great time machine, the camera. These photos submitted by Bill Draeb of Kewaunee WI. Thanks very much, Bill.



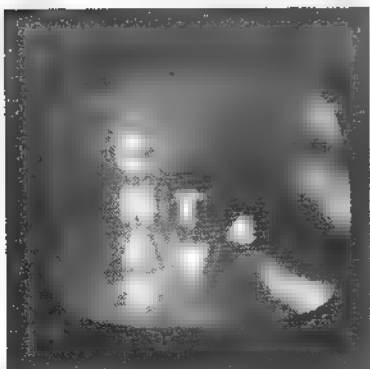
KROD-4  
1355 mi Es

El Paso TX  
(now KDBC-4)



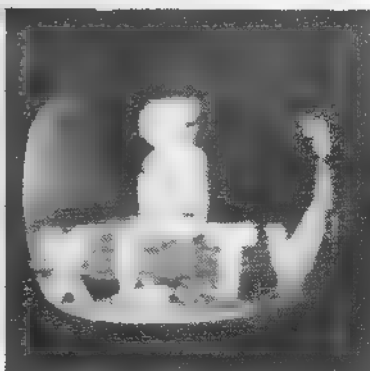
KGMK-4  
1060 mi Es

Amarillo TX  
(now KAMR-4)



CHAB-4  
930 mi  
Seen Dec. 5, 1960 at 1920 CST

Moose Jaw, Sask.  
(now CHKW 4)



KXLF-4  
1275 mi  
Dec. 5, 1960 at 2000 CST

Butte MT

(nicknamed "XLTV")

So we come to the end of this month's "time trip", guys. MEMORABILIA will not appear next month (Jan. 1978), due to the big TENTH ANNIVERSARY ISSUE. I hear it'll be a "biggie", guys! See y'all in Feb. 73s, Best DX,

Bob



# WESTERN TV-DX

Doug Everitt  
1710 W Maine  
Enid OK 73701  
(405) 233-4890  
Deadline: 10th

We'll start things off this month with the WESTERN TV DX Es Chart... You may want to go back and update Es records of your own with some of Rick Samford's older loggings in his latest report. All Es information from Pat Dyer's backlog of reports has been entered into both this month's and last month's chart, including MUFs from loggings not yet printed in VUD. My apologies to Pat for the long delays of his loggings...

Date	August	01	02	03	04	05	07	09	10	11	12	13	15	16	17	18	19	21	27	28
# reporters	4	8	6	2	2	3		1	2	1	2	2	3	1	1	2	1	1	2	1
MUF at least	6	107.5	95.5	4	5	107.1	2	2	2	4	107.1	107.3	5	6	2	2	6	2	3	2

September	12	14	15	16	27	28	October	04	05	17	18	20	28	31	No new Am, 28, etc. info since last chart; consult Nov. issue for these...
# rpttrs	1	1	1	1	2	1		1	1	1	2	1	2	1	
At least	2	5	94.1	2	4	3		2	4	2	4	2	107.9	6	

Don't forget that there will be no MTV column in the January issue, due to plans for our Anniversary Issue. Also, as has been mentioned on the FROM THE STAFF page, I will not be able to continue the editorship of this column beyond mid-1978, so if you are interested in the post, and feel that you are editorially competent, please drop a line to the Editor-In-Chief, Clarke Ingram, at 5201 Colewood Drive, Pittsburgh PA 15236. I will continue to edit the column until a successor has been found, so we will avoid a disappearance of the column. Now on with the show....

B.W.Battin, 4305 Pitt, Duluth, Minnesota 55804 (CDT/CST) (October 1977)																	
<u>25</u> tr	1420	WUHQ	41	MI	475mi	<u>27</u> tr	0135	KCCI	8	IA	370mi	<u>30</u> tr	0125	Milwaukee	Vs		
	1610	KSIN	27	IA	365mi		0210	WREX	13	IL	350mi		0620	KWWL	7	IA	300mi
	1825	KHIN	36	IA	435mi		0215	Chicago	Vs	405mi			WMT	2	IA	340mi	
	1830	KTSB	27	KS	570mi	<u>29</u> tr	0140	KAAL	6	MM	220mi		0645	WHEF	4	IL	375mi
	1835	KXNE	19	NE	425mi		0600	KINT	3	LA	260mi		1545	WEEK	25	IL	445mi
	1840	KMEG	14	LA	365mi			(new call for KGLO)					1550	WICS	20	IL	500mi
	2130	WHO	13	IA	370mi		1850	WICS	20	IL	500mi			WKMA	35	KY	710mi
<u>26</u> tr	1230	Chicago	Us	405mi			1945	WUSI	16	IL	600mi		1645	KDNL	30	MO	575mi
	1245	KSIN	27	IA	365mi		2000	WAND	17	IL	510mi		1715	WNDU	16	IN	470mi
	1400	Rockford	Us	350mi				Chicago	Us	405mi		1840	Chicago	Us	405mi		
	1550	WIGS	20	IL	500mi			Rockford	Us	350mi		1845	Milwaukee	Us			
	2115	KHIN	36	IA	435mi		2010	WNIT	34	IN	470mi		1915	WIGD	15	IL	500mi
	2120	South Bend	Us				2015	WEEK	25	IL	445mi		2020	WGTV	29	MI	350mi
		WKJC	33	IN	540mi		2110	KDNL	30	MO	575mi		2030	KIIN	12	IA	360mi
	2200	WGVC	35	MI	425mi		2145	WNDU	16	IN	470mi		2220	WUSI	16	IL	600mi
		WUHQ	41	MI	475mi		2200	WIGD	15	IL	500mi		2225	WFIE	14	IN	655mi
	2210	KDNL	30	MO	575mi		2220	WTVF	47	IL	445mi	<u>31</u> tr	0040	WPTA	21	IN	540mi
	2350	WUSI	16	IL	600mi		2305	KIIN	12	IA	360mi			Milwaukee	Vs		
<u>27</u> tr	0130	Milwaukee	Vs			<u>30</u> tr	0105	WISC	3	WI	295mi		0045	Chicago	Vs	405mi	
	0135	WHO	13	IA	370mi		0125	WQAD	8	IL	375mi		1530	KIIN	12	IA	360mi

For a while, I thought September marked the beginning and end of the tropo season here. October was dead until the 25th, when tropo suddenly revived. Just for the record, there are a number of stations I receive so frequently that I don't report them. Here's a brief run-down: Most stations within 200 miles, LaCrosse WI stations at 210 miles, Green Bay WI stations at 255 miles, Marquette MI stations at 225 miles, KRIN-32 Waterloo IA at 300 miles, KDUB-40 Dubuque IA at 310 miles, Madison WI UHF's at 295 miles, KTIN-21 Ft. Dodge IA at 315 miles, WJMN-3 Escanaba MI at 250 miles, and KYIN-24 Mason City IA at 260 miles. The following stations I only report when I have unusually strong signals: Rockford IL UHF's at 350 miles, and WGTU-29 Traverse City MI at 350 miles. I noticed two call changes this month: WCBE-23 Rockford is now WIFR, and KGLO-3 Mason City is now KMT. Duluth log total stands at 171. Happy Holidays to all = Buck

Rick Samford, 404 S. McNeill Street, Burnet, Texas 78611 (CDT)												
19-inch RCA XL-100, BTX-111, Winegard KU-420 & Archer preamp at 28', hi-band yagi at 25'.												
<u>May 1977</u>			26 tr 0759 KFDH 6 TX 250mi				17 tr 0745 KLAA 14 LA 390mi					
20 Es 1800 WRAL 5 NC			29 Es 1800 WUNC 4 NC				0800 WAPT 16 MS 500mi					
<u>July 1977</u>			WECT 6 NC				<u>September 1977</u>					
13 Es 1200 KTVI 2 MO			2000 WSJK 2 TN				19 tr 2225 KAMU 15 TX 110mi					
21 Es 1128 WTVJ 4 FL			<u>August 1977</u>				(at 23 kW, no chip shot with this set-up)					
1129 WESH 2 FL			02 Es 1957 KXKT 2 CA				20 tr 0020 KPLC 7 LA 300mi					
1200 WTHS 2 FL			03 tr 0815 KEDT 16 TX 215mi				0025 KLTV 7 TX 205mi					
WEDU 3 FL			(after 7 mo. of DX, finally VAFI 5555)				21 tr 2050 WAPT? 16 MS (T)					
WPTV 5 FL			05 Es 1730 KTVK 3 AZ				As you can see, the majority of this report					
1233 WCIX 6 FL			1934 KVOA 4 AZ									
25 tr 0829 WMAA 29 MS 500mi												

Rick Samford continued...

is comprised of late summer skip and a few widely-spaced (in days) tropo openings. The best skip day noted here was the opening to south Florida on 7/21, while the best tropo day was seen on 7/25 with KLAA-14, WMAW-14, WAPT-16, and KXIX-19 noted tentatively. (Rick, stations should be reported in the body of your report in the order received, whether they are QSLed yet or not. This helps keep the report in the same time frame and avoids possible confusion...de) Considering the poor conditions I've noted lately, this may be my last report until next spring. Now that I've installed a U-100 rotor for the FM, I spend less time with TV DX. Unlike Buck Battin, I don't have great luck with smiling ducts. I imagine most ducts laugh at us poor souls who naively stare at snow expecting one... 73 = Rick (Ah, but keep watching! ..de)

<u>Doug Everitt, 1710 W Maine, Enid, Oklahoma 73701 (405) 233-4890 (CDT/CST)</u>		
<u>October 1977</u>		
<u>14</u> tr 0810 KCBJ 17 MO 350mi	<u>26</u> tr 0120 KETV 7 NE 355mi	<u>27</u> tr 0935 KBIN 32 IA 355mi
KHIN 36 IA 340mi	0750 KXNE 19 NE 380mi	KHIN 36 IA 340mi
<u>18</u> Es 0959 WCBF 2 SC 1050mi	KTIN 21 IA 465mi	<u>28</u> Es 0940 WUND 2 NC 1190mi
<u>25</u> tr 1910 KMEG 14 IA 430mi	KYIN 24 IA 525mi	WCBF? 2 SC (T)
KXNE 19 NE 380mi	KHIN 36 IA 340mi	1015 WWAY? 3 NC (T)
KTIN 21 IA 465mi	1000 KXNE 26 NE 355mi	1135 WMAW? 2 MD (T)
1915 KSIN 27 IA 430mi	KBIN 32 IA 355mi	WRCB 3 TN 715mi
KHNE 29 NE 290mi	KHNE 29 NE 290mi	WYCB 5 VA 875mi
KBIN 32 IA 355mi	<u>1115</u> KMEG 14 IA 430mi	WATE 6 TN 780mi
KHIN 36 IA 340mi	KSIN 27 IA 430mi	1150 WUNC 4 NC 1075mi
1920 KGIN 11 NE 315mi	1200 KGIN 11 NE 315mi	1155 WBTB 3 NC 960mi
1925 unID 17 nne	KHGI 13 NE 315mi	1218 WSB 2 GA 785mi
2345 KYIN 24 IA 525mi	<u>27</u> tr 0925 KRIN 32 IA 515mi	1229 WSAV 3 GA 1005mi
2350 KMEG 14 snowfree	0930 KMEG 14 IA 430mi	<u>31</u> tr 0855 KTIN 21 IA 465mi
<u>26</u> tr 0000 K18AA KS 170mi	KCBJ 17 MO 350mi	KHIN 36 IA 340mi
K34AA KS 170mi	KTIN 21 IA 465mi	0915 WOI 5 IA 450mi
0110 RSFY 13 SD 500mi	KYIN 24 IA 525mi	0929 KCCI 8 IA 425mi
0115 KELO 11 SD 500mi	0935 KYNE 26 NE 355mi	0933 WHO 13 IA 425mi
0120 WQWT 6 NE 355mi	KSIN 27 IA 430mi	0935 KGIN 11 IA 425mi
	KHNE 29 NE 290mi	1010 KYIN 24 IA 525mi

I've recalculated some of my distances, and I believe they're now more accurate. I may take some time to find actual transmitter locations in TELEVISION FACTBOOK, and then recalculate them again, but for now I'll leave it as is. Distances are by air to the nominal coordinates of the city, not directly to the transmitter. In most cases, this is close enough. ROET-3, the new Public TV outlet in Eufaula OK, has been seen testing with color bars and tone, with a fairly weak but steady signal, at about 165 miles. The xmtr is on Blu Mountain, and they may be on with full ached by the time the mid-winter skip season begins, so watch out for another PBS target on channel 3. Enough for now....de

<u>Pat Dyer, WASTYX, 5315 Silvertip Drive, San Antonio, Texas 78228 (CST)</u>		
<u>July 1977</u>		
<u>01</u> Es 1259 WMT 2 IA 945mi	<u>02</u> Es 1459 WKYC? 3 OH (T)	<u>04</u> Es 1858 KTCA 2 MN 1110mi
1329 KGLD 3 IA 985mi	1515 MUF 106.7 MHz	1900 KSTP? 5 MN (T)
1400 f/out	1705 f/out	WCCO? 4 MN (T)
1455-1520 ch.2 west	1800-0000 thru 6	1907 thru 6
1629 WPBT 2 FL 1150mi	2040 MUF 95.1 MHz	1953 f/out
1650 WTVJ? 4 FL (T)	KGPE? 2 ND (T)	<u>05</u> Es 0955 1130 ch.2
1754 WKZO 3 MI 1140mi	2310 WISC 3 WI 1065mi	also 1935-2105 & 2345-0000
1757 WBBM 2 IL 1045mi	<u>03</u> Es 0000-0130 thru 4	<u>06</u> Es 0000-0025 ch.2 spotty
1900 MUF 107.9 MHz +	0910-1310 thru 6	1030-1055 thru 6
2110 WAVE 3 KY 945mi	1105 MUF 107.1 MHz	1059 KMTV 3 NE 830mi
2117 WDTN 2 OH 1075mi	1400 WTWO 2 IN 935mi	1112 KDLO 3 SD 1070mi
2201 KUTV 2 UT 1080mi	(1420-1715: 50 MHz ham into Hawaii on 3Es...)	1125 KDIX 2 ND 1225mi
2215 f/out	1733 KTVK 3 AZ 835mi	1150 KOTA? 3 SD (T)
<u>02</u> Es 0800-0830 thru 4	1825 MUF 89.5 MHz	1310 KTV? 4 SC (T)
0810 WTVJ? 4 FL (T)	2059 WUND 2 NC 1360mi	WCBF? 2 SC (T)
0829 WEDU 3 FL 985mi	2110 WKYC 3 OH 1250mi	WCSC? 5 SC (T)
WESH 2 FL 1055mi	2235 f/out	1315 MUF 98.9 MHz
0836 MUF 93.9 MHz	<u>04</u> Es 0020-0120 ch.2 spotty	1330 WSAV? 3 GA (T)
0959 WRBL 3 GA 830mi	0200 ch.2 brief	1428 KHTV 4 DF 690mi
WTWO 2 IN 935mi	0915-1215 thru 6	1500 KTVK? 3 AZ (T)
1029 KQTV 2 MO 750mi	0929 KTCA 2 MN 1110mi	1505 KVOA? 4 AZ (T)
1050 KOTA? 3 SD (T)	0959 WBBM 2 IL 1045mi	1559 WBAY 2 WI 1190mi
1137 KWGN 2 CO 810mi	1007 MUF 94.5 MHz	1659 KUTV 2 UT 1080mi
1145 KOA? 4 CO (T)	1029 WBAY 2 WI 1190mi	1700 KTVX? 4 UT (T)
1150 MUF 94.9 MHz	1101 WMT 2 IA 945mi	1708 MUF 94.1 MHz
1308 MUF 90.1 MHz	1730-35 KNMT 2 CA	1730 f/out
1328 KDIX 2 ND 1225mi	1820-55 thru 5	2110 ch.2 brief
		2210-2300 thru 5

## Pat Dyer continued...

<u>07</u> Es	0940-1000 ch.2	<u>10</u> Es	0930-35 ch.2	<u>15</u> Es	2205 KVVU? 5 NV (T)
0959	KTCA 2 MN 1110mi	1540-45	thru 4	<u>16</u> Es	1110-1200 thru 3, nw
1035	WCCO? 4 MN (T)	<u>11</u> Es	1935-55 WFMV? 2 NC (T)	<u>17</u> Es	1520 WTAE? 4 PA (T)
1059	KIWO 2 WY 1015mi	2159	KIWO 2 WY 1015mi	1522	KDKA 2 PA 1280mi
1108	MUF 98.7 MHz		KTVQ 2 MT 1245mi	1559	WJBK 2 MI 1225mi
1129	KDLO 3 SD 1070mi		KXLF? 4 MT (T)	1605	CKCO 2 ON 1410mi
1148	CBWT 6 MB 1410mi		2325 f/outs	1845	apx f/outs
1156	KFYR? 5 ND (T)	<u>12</u> Es	0825-30 ch.2	<u>18</u> Es	0705-0850 thru 4
1159	KOTA 3 SD 1040mi	0900-59	ch.2	0859	WTWO 2 IN 935mi
1200	CBWFT 3 MB 1410mi	0959	KTCA 2 MN 1110mi	0910	thru 6
	WDAY 6 ND 1210mi	1059	KWGN 2 CO 810mi	1157	MUF 105.5 MHz
1259	KTVQ 2 MT 1245mi		KIWO 2 WY 1015mi	1228	WBAY 2 WI 1190mi
1310	KXLF? 4 MT (T)	1130	KOA? 4 CO (T)	1420	f/out
1319	MUF 93.5 MHz	1205	KOTA 3 ■ 1040mi	1715	WBAY 2 WI 1190mi
1411	WDTN 2 OH 1075mi	1220	KDSJ? 5 ■ (T)	1720	WISC 3 WI 1065mi
1529	KOAI 2 AZ 855mi	1229	KDEX 2 ■ 1225mi	1755	WMT 2 IA 945mi
1605	KVOA? 4 AZ (T)	1330	f/out	1850	MUF 89.5 MHz
1650	KNXT 2 CA 1190mi	1610	KDKA ■ PA 1280mi	1959	WSJK 2 TN 1010mi
	KNBC? 4 CA (T)	1645	WTAE? 4 PA 1280mi	2059	KORK 3 NV 1050mi
1725	KTLA? 5 CA (T)	1728	WCIV 4 SC 1120mi	2157	XHBS? 4 SIN (T)
1759	WUND 2 NC 1360mi		(vid thru local)	2215	f/out
1859	WFMV 2 NC 1175mi	1732	WCBD ■ SC 1120mi	<u>20</u> Es	1258-1305 KTVK? 3 AZ
1925	f/out	1934	MUF 107.9 MHz	1625-50	WPBT? 2 FL (T)
<u>08</u> Es	0910 thru 6	tr 2059	KFDM 6 TK 275mi	<u>21</u> Es	0850-0940 thru 6
0925	MUF 105.9 MHz	Es 2330	apx f/out	0940	WESH? 2 FL (T)
0959	WEDU 3 FL 985mi	<u>13</u> Es	0005 KPLC 7 LA 325mi		WEDU? 3 FL (T)
1012	WESH 2 FL 1055mi	Es 0910	thru 6		WTVJ? 4 FL (T)
1029	WRBL 3 GA 830mi	1013	WAVE 3 KY 945mi		WPTV? 5 FL (T)
1035	WJXT? 4 FL (T)	1113	WITI 6 WI 1100mi	1129	WDBO 6 FL 1035mi
1150	Cuba 3	1114	MUF 107.7 MHz	1132	MUF 107.9 MHz
1155	Cuba 2	1210	KTCA? 2 MN (T)	1215	WCIX? 6 FL (T)
	Cuba? 5 (T)		WCCO? 4 MN (T)	1259	KGLD 3 IA 985mi
1159	Cuba 6		KSTP? 5 MN (T)	WMT	2 IA 945mi
1259	WEDU 3 FL 985mi	1319	YSR 2 EL S 1200mi	1759	KYTV 3 MO 615mi
1350	WEAR? 3 FL (T)		TGV? 3 Guat 1120mi	1825	MUF 93.5 MHz
1359	WDIQ 2 AL 730mi	1320	MUF 94.9 MHz	1859	WSJK 2 TN 1010mi
	WRBL 3 GA 830mi	2110	f/outs		WSIL 3 IL 810mi
	WSAV 3 GA 1050mi		(much unID 2-4 Spanish)	1952	MUF 99.1 MHz
1417	WSB 2 GA 880mi	<u>14</u> Es	1005-10 ch.2	2015	WDTN 2 OH 1075mi
1515	KYTV? 3 MO (T)	1715	WMT 2 IA 945mi	2105	f/outs
1557	WBBM 2 IL 1045mi	1720	KGLD 3 IA 985mi	<u>22</u> Es	0910-1000 thru 3
1725	WFMV 2 NC 1175mi		WCCO? 4 MN (T)	1000	WCBD? 2 SC (T)
1759	WSJK 2 TN 1010mi	1728	KTCA 2 MN 1110mi	1018	WRAL? 5 NC (T)
	WHIS 6 WV 1125mi	1729	WBAY 2 WI 1190mi	1026	MUF 94.1 MHz
1841	MUF 98.7 MHz	1759	KDLO 3 SD 1070mi	1029	WFMV 2 NC 1175mi
2050	f/outs		KLNE 3 NE 785mi		WNGE 2 TN 820mi
2133-2150	thru 5		KUSD 2 SD 920mi	1055	WSAV? 3 GA (T)
<u>09</u> Es	0305 KNXT 2 CA 1190mi	1815	MUF 99.1 MHz	1105	WCMH? 4 OH (T)
	KNBC 4 CA 1190mi	1857	KOTA 3 SD 1040mi	1110	WAVE 3 KY 945mi
	KTLA? 5 CA (T)	1900	KDIX 2 ND 1225mi	1129	WTWO 2 IN 935mi
0315	KEYT 3 CA 1270mi	1917	KPRY 4 SD 1035mi	1204	WCIA 3 IL 935mi
0340	f/out		(vid & aud thru local)	1237	MUF 96.5 MHz
0605-15	ch.2	1928	KTVQ 2 MT 1245mi	1259	WISC 3 WI 1065mi
0915-1000	thru 4		KORK 3 NV 1050mi		WMT 2 IA 945mi
0950	KMOX? 4 MO 790mi	1959	KIWO 2 WY 1015mi	1459	WBAY 2 WI 1190mi
0959	KTVI 2 MO 790mi	2012	KTCA 2 MN 1110mi	1529	WISC 3 WI 1065mi
1029	WCIA 3 IL 935mi		KSTP? 5 MN (T)	1559	WMT 2 IA 945mi
1050	thru 6	2058	MUF 93.5 MHz	1621	MUF 97.9 MHz
1051	MUF 95.1 MHz	2059	KTVS 3 CO 815mi	1629	KTCA 2 MN 1110mi
1130	KUSD 2 SD 920mi	2315	f/outs	1729	KUSD 2 SD 920mi
1729	KOTA 3 SD 1040mi	<u>15</u> Es	0030-35 ch.2 north	1835	f/outs
	WMT 2 IA 945mi	0850	KEYT? 3 CA (T)	<u>23</u> Es	0955-1005 ch.2
1759	KQTV 2 MO 750mi		KNBC? 4 CA (T)	1300-05	ch.4
	WFMV 2 NC 1175mi	0859	KNXT 2 CA 1190mi	1353-1545	thru 3
1825	XHBS? 4 SIN (T)	0935	f/out	1353	KOAI? 2 AZ (T)
1934	MUF 89.3 MHz	1825-2110	thru 4	<u>24</u> Es	on ch.2 at
1959	WBAY 2 WI 1190mi	2110	KVOA? 4 AZ (T)	0935-1000, 1035-1100,	
2100	f/out	2159	KOAI 2 AZ 855mi	1305 1320, 1745-1750,	
2150	ch.2 north	2205	KORK? 3 NV (T)	and 1935-1940	
<u>10</u> Es	0850 55 ch.2 north		MUF 95.5 MHz	2030-2140	thru 4

Pat Dyer continued...

(still July 1977....de)

24 Es 2125 KDLX 2 ND 1225mi  
tr 2313 KLFY 10 LA 395mi  
2334 KFDM 6 TX 275mi

25 Es 1520-1700 thru 3  
1615 WESH? 2 FL (T)

26 Es 0940-1050 ch.2  
1020 MUF 89.5 MHz  
1029 KDLX? 2 ND 1225mi  
1457 KDKA 2 PA 1280mi  
1459 WTWO 2 IN 935mi  
1517 WBAY 2 WI 1190mi  
1550 MUF 89.5 MHz  
1627 WBBM 2 IL 1045mi  
1728 MUF 89.3 MHz  
1759 WTWO 2 IN 935mi  
1755 CBWFT? 3 MB (T)  
1929 WDTN 2 OH 1075mi  
1953 MUF 89.5 MHz  
2105 f/outs

27 tr 0025 XET 6 NL 275mi  
Es 0855-0925 thru 4  
0927 WWJ? 4 MI (T)  
WJBK 2 MI 1225mi  
0955 WGO? 4 MN (T)  
0959 WDTN 2 OH 1075mi  
1000 MUF 89.5 MHz  
1010 KSTP? 5 MN (T)  
1029 KTGA 2 MN 1110mi  
1059 WTWO 2 IN 935mi  
1100 MUF 95.1 MHz  
1136 WGBD 2 SC 1120mi  
WWAY 3 NC 1250mi  
WCIV? 4 SC (T)  
1149 WJXT? 4 FL (T)  
1320 MUF 106.7 MHz  
1359 WSJK 2 TN 1010mi  
1433 KWGN 2 CO 810mi  
KOA? 4 CO (T)  
1435 KTWO 2 WY 1015mi  
1514 KEYT 3 CA 1270mi  
1528 KNKT 2 CA 1190mi  
1535 KNBC? 4 CA (T)  
1650 KTLA? 5 CA (T)  
1740 KORK? 3 NV (T)  
KVVU? 5 NV (T)  
1829 WPMY 2 NC 1175mi  
2052 MUF 107.1 MHz  
2330 f/outs

28 Es 0000-0015 KORK? 3 NV  
0050-0102 KOAI? 2 AZ  
1129 WTHS 2 FL 1150mi  
1159 WESH 2 FL 1055mi  
1350 WAVE? 3 KY (T)  
1359 WDTN? 2 OH (T)  
1430 MUF 96.9 MHz  
1459 WBAY 2 WI 1190mi  
1800-10 thru 4  
1810 KLNE? 3 NE (T)  
1940 f/outs

29 Es 0950-1055 thru 6  
0957 MUF 88.1 MHz  
1059 WNGE 2 TN 820mi  
1201 WSAZ 3 WV 1100mi  
1229 WDTN 2 OH 1075mi  
1259 WSJK 2 TN 1010mi  
1328 WGBD? 2 SC (T)  
1329 WDIQ 2 AL 730mi  
1403 MUF 94.1 MHz  
1429 KQTV 2 MO 750mi  
KTVI 2 MO 790mi

29 Es 1452 KMTV 3 NE 830mi  
1459 KUSD 2 SD 920mi  
1500 MUF 89.7 MHz  
1507 KDLO 3 SD 1070mi  
1513 KORN 5 SD 1055mi  
1524 KLNE? 3 NE (T)  
1525 KPLO 6 NE 955mi  
1655 MUF 107.9 MHz +  
2015 f/outs

30 Es 1250 Cuba 2  
XRTV? 4 DF (T)  
1320 TGV? 3 Guat (T)  
1347 MUF 98.6 MHz  
1420 Cuba? 5 (T)  
1459 WEDU 3 FL 985mi  
WPBT? 2 FL (T)  
WTVJ? 4 FL (T)  
WPTV? 5 FL (T)  
1504 WESH 2 FL 1055mi  
1509 WDBO? 6 FL (T)  
1512 WJXT? 4 FL (T)  
1523 MUF 105.9 MHz  
1553 WGBD? 2 SC (T)  
1646 WCIX 6 FL 1150mi  
1729 Cuba 6  
1759 WPBT 2 FL 1150mi  
2125 f/outs

tr 2243 KFDM 6 TX 275mi  
WRBT 33 LA 450mi  
2350 WGN? 26 LA (T)  
31 tr 0028 WRBT 33 LA 450mi  
Es 0045-0130 thru 4  
0106 WBAY 2 WI 1190mi  
0910 thru 6  
1023 MUF 106.9 MHz  
1133 WBBM 2 IL 1045mi  
1142 WBAY 2 WI 1190mi  
1258 KUTV 2 UT 1080mi  
1300 KTVX? 4 UT (T)  
1330 f/outs  
1612 CKCO 2 ON 1410mi  
1629 WBBM 2 IL 1045mi  
1638 thru 6  
1650 MUF 89.5 MHz  
1710 WCMH? 6 MI (T)  
1759 KTVQ 3 MO 835mi  
1829 WISC 3 WI 1065mi  
1830 MUF 98.5 MHz  
1935 f/outs

August 1977

01 Es 0015-0110 thru 4  
0037 KSTP 5 MN 1110mi  
tr 0625 WRBT? 33 LA (T)  
WGN? 26 LA (T)  
Es 0940-1210 thru 4  
1029 KTVQ 2 MT 1245mi  
1134 KBCI 2 ID 1370mi  
1240-1320 thru 5  
1258 KORK? 3 NV (T)  
1307 KNXT 2 CA 1190mi  
KEYT? 3 CA (T)  
1430-50 ch.2 spotty  
1655 1705 WDTN 2 OH

02 Es 0810-0830 thru 3  
0829 WTWO 2 IN 935mi  
WBAY 2 WI 1190mi  
0843 KQTV 2 MO 750mi  
0929 KDKA 2 PA 1280mi  
0940 WTAE? 4 PA (T)  
0958 WESH 2 FL 1055mi  
1108 WBAY 2 WI 1190mi

02 Es 1110-1335 thru 5  
1445-1525 ch.2  
1529 WPBT 2 FL 1150mi  
1703 WDAY 6 ND 1210mi  
1709 MUF 97.9 MHz  
1729 KUSD 2 SD 920mi  
1740 KPLO 6 SD 955mi  
1759 KNBC 4 CA 1190mi  
(vid over local)

1800 KNXT 2 CA 1190mi  
KEYT 3 CA 1270mi  
1801 KTLA? 5 CA (T)  
1805 KVOA? 4 AZ (T)  
1815 XEWH? 6 SON (T)  
1835 KORK? 3 NV (T)  
1843 KOAI? 2 AZ (T)  
1855 XHBS? 4 SIN (T)  
1925 XHBC? 3 BCN (T)  
1940 XHAQ? 5 BCN (T)  
2059 WMT 2 IA 945mi  
2105 f/outs  
2345-50 ch.2

03 Es 0940-1000 ch.2  
1000 WJBK 2 MI 1225mi  
1010 WWJ? 4 MI (T)  
1013 CKFR 2 ON 1400mi  
1029 WBAY 2 WI 1190mi  
1110 WISC 3 WI 1065mi  
KDLO? 3 SD (T)  
1358 WBBM 2 IL 1045mi  
1515 f/outs  
1640-1730 ch.2  
1805-1810 ch.2  
1920-2115 thru 5  
2032 KVVU? 5 NV (T)  
2045 MUF 95.5 MHz  
2057 KORK 3 NV 1050mi

04 Es 0930-1000 thru 3  
1000 WESH 2 FL 1055mi  
1229 WPMY 2 NC 1075mi  
1255 KWGN? 2 CO (T)  
1458 KUTV 2 UT 1080mi  
1529 KNKT 2 CA 1190mi  
1615 f/outs  
1800-1920 ch.2 w, sw  
2115-2145 ch.2  
2145 KTVX? 4 UT (T)  
2202 KUTV 2 UT 1080mi  
2305 f/outs

05 Es 0950 KORK? 3 NV (T)  
0959 KOAI 2 AZ 855mi  
1015 KTVX? 3 AZ (T)  
1030 f/outs  
1250-55 ch.2  
1345 50 ch.2  
1603 KOAI 2 AZ 855mi  
1629 KORK 3 NV 1050mi  
KVVU? 5 NV (T)  
1830-1950 thru 3  
2020-2025 ch.2

06 ms 0744:30 WMAB 2 MS  
07 Es 1815 WGBD? 2 SC (T)  
2050-55 ch.2  
08 ms 0053 KOAA?/KREX? 5 CO  
1256 WSB 2 GA 880mi  
09 Es 1915-2005 ch.2  
1929 WPMY 2 NC 1175mi  
10 Es 0900-0950 ch.2  
0945 WTHS 2 FL 1150mi  
ms 2240.30 WCIA 3 IL  
11 ms 1113 KWGN? 2 CO (T)

Pat Dyer continued...

11 ms 1228 KTVI 2 MO 790mi	13 Es 1959 WSJK 2 TN 1010mi	14 Es 0925 f/out
Es 1325 WCCO? 4 MN (T)	2107 KUTV 2 UT 1080mi	1920-2020 thru 3
1329 KTCA 2 MN 1110mi	2110 f/out	2025 WCCO? 4 MN (T)
1359 KNOP 2 NE 815mi	2240-45 KNXT? 2 CA (T)	2029 KTCA 2 MN 1110mi
1559 KUTV 2 UT 1080mi	15 Es 2140-55 KNXT? 2 CA (T)	ms 2053 KUSD 2 SD 920mi
1630 f/out	2325 30 ch.2	15 Es 0905-0940 ch.2
12 Es 0759 WJBK 2 MI 1225mi	16 Es 0943 KOAI 2 AZ 855mi	1030-1140 ch.2 spotty
0859 KTCA 2 MN 1110mi	0945 KNBC? 4 CA (T)	1200-1245 thru 4
WCIA 3 IL 935mi	0957 KNXT? 2 CA (T)	1247 KTVX? 4 UT (T)
WCCO? 4 MN (T)	1010 KUAT? 6 AZ (T)	KSL? 5 UT (T)
0929 WFMY 2 NC 1175mi	1020 KPHO? 5 AZ (T)	1255 MUF 94.1 MHz
WDTN 2 OH 1075mi	1029 KTVK 3 AZ 835mi	1259 KUTV 2 UT 1080mi
0950 f/out	1140 f/out	1329 KID 3 ID 1215mi
1655 WCCO? 4 MN (T)	1405-30 thru 3	1335 f/out
1659 KTCA 2 MN 1110mi	1429 RORR 3 NV 1050mi	16 Es 0928-1000 ch.2
KDAL 3 MN 1250mi	KVVU? 5 NV (T)	20 tr 1950 KETS? 2 AR (T)
1722 MUF 90.1 MHz	1445 KOAI 2 AZ 855mi	21 tr 1710 KETS? 2 AR (T)
1729 KMTV 3 NE 830mi	1515-30 thru 5	2000 KODE? 12 MO (T)
1759 KDLO 3 SD 1070mi	17 tr 0021 KFDM 6 TX 275mi	22 tr 0058 KSLA 12 LA 350mi
KUSD 2 SD 920mi	Es 1035-1150 ch.2	27 tr 0129 KNOE 8 LA 440mi
1800 WBAY 2 MI 1190mi	1138 WNGE 2 TN 820mi	0130 KSLA 12 LA 350mi
1840 f/out	18 Es 1835-1940 ch.2	Es 1040-50 KNXT? 2 CA (T)
13 Es 0805-0830 ch.2	19 Es 0928 KTCA 2 MN 1110mi	1925-2005 ch.2 n, ne
0829 WBBM 2 IL 1045	0955 WCCO? 4 MN (T)	(heavy trop CCI)
1032 KDKA 2 PA 1280mi	0959 KIMT 3 IA 985mi	tr 2341 KLFY 10 LA 395mi
1035 WTAE? 4 PA (T)	1005 thru 6	2359 WRBT 33 LA 450mi
1157 MUF 94.5 MHz	1030 f/out	28 tr 0019 WAFB 9 LA 450mi
1228 WDTN 2 OH 1075mi	21 tr 2303 KPLC 7 LA 325mi	0022 KFDM 6 TX 275mi
1258 WJBK 2 MI 1225mi	22 tr 0010 KFDM 6 TX 275mi	Es 2010-35 ch.2 north
1303 WTWO 2 IN 935mi	27 Es 1900-30 ch.2 sw	2125-2210 thru 3, ne
1320 f/out	2020 ch.2 brief	29 tr 0002 WVUE 8 LA 510mi
1712 WBAY 2 WI 1190mi	28 Es 0930-1015 ch.2	KATC 3 LA 395mi
1750 Canadian 2	September 1977	0007 WRBT 33 LA 450mi
1755 WGLV? 6 MI (T)	12 Es 2025-30 ch.2	WGNO? 26 LA (T)
1800 KTCA 2 MN 1110mi	14 Es 0842 KORK 3 NV 1050mi	0020 KFDM 6 TX 275mi
1842 MUF 107.3 MHz	0857 KEYT? 3 CA (T)	WAFB 9 LA 450mi
1929 KPIX 2 ND 1225mi	0858 KNBC? 4 CA (T)	0021 WLPB 27 LA 450mi
1935 KOTA? 3 SD (T)	KTLLA? 5 CA (T)	0058 KSLA 12 LA 350mi
1950 WCBF? 2 SC (T)	0859 KNXT 2 CA 1190mi	30 tr 1825 KETS? 2 AR (T)

Es slowed down into August, even though a few openings did pop up in September. Meteors produced a few relogs. Rot September weather (most days in 90s F) helped along the trop. The Texas All-Night Network (TEXANN), which had Sunday 1 am - 6 am on some five stations, is now apparently defunct. It did, however, mess up the Perseids some, with local 5 on. (A word of explanation regarding loggings of Es "thru 4", etc... these usually denote a good number of UNID loggings thru the channel indicated, which would not otherwise appear due to the policy on UNIDs. Tropo UNIDs are more likely to be unusual, so these are occasionally left in, minus details, in some reports...de)

\*\*\*Since there will be no WTV in January, we'll be back in February with more DX reading. In the meantime, the mid-winter Es season should be getting underway, particularly for more Southerly DXers. Auroral conditions should be looking up for DXers in the North, and perhaps some winter hi pressure systems will trigger some good tropo for reporters in the Midwest. At any rate, don't forget to report! Happy Holidays..... Doug

## STATION BREAK

Noncommercial member ads welcome!  
Limit 100 words. Send ads to HQ.  
(address on page 2 of this issue).

FOR SALE: Sears 5-band programmable scanning monitor for 30-50, 150-170 and 450-512 MHz. Uses program cards. No crystals needed. Car adaptor included. \$270 plus postage. Michael W. Scheel, 4126 Nobis Drive, Davenport IA 52802.

STILL WANTED: Airchecks of Top 40 stations from across the country (Canada too) for a composite which until recently had been put aside. Cassettes or reel-to-reel tapes fine. Contact Clarke Ingram (address on back cover)

(Ads for STATION BREAK should be sent to Frank Aden after January 20, 1978)



# EASTERN TV-DX

Bill Thompson  
1907 Seneca Street  
Buffalo, NY 14210

December 1977

Deadline: 10th

October tropo activity in most of the reporting area was not up to par again this year, mostly due to cold weather making an early appearance in many places. There were a few good days though, and in areas of the Northeast and Midwest nearest to the Great Lakes, some interesting catches were made. Most of these were logged around October 10th-11th and 26th-27th. Among the more interesting loggings are Jim Gould's catch of K1AA-14 at 650 miles on the 10th. Also, Bob Seybold informed your editor of some loggings into Iowa and Missouri at distances of up to 900 miles during the 26th-27th ducting sessions. Things changed quickly by early November, with heavy rains along the Appalachian Mountains destroying any chance of a continuation of fairly good late October conditions; and by the 10th of November, the first big winter-type storm of the late Fall was crossing the northern Midwest. There may have been a bit more out-of-season E-skip activity than usual in October--and an interesting R-skip opening on November 10th was noted by your editor. Don't forget about upcoming meteor showers!

Roger Gravelle 60 Valerie Street St. Thomas, Ontario N5R 1A8 (EDST)

May	5 Es	1800	CHHT-3 NS	18 Es	1800	CKGW-2 NB
30 Es	1900	KOTA-3 SD	6	2130	K0AA-5 GO	unID-2 NBC
31	1916	KPRY-4 SD			"At this time,	"suspect WLBZ"
June	2	1800	CHHT-3 NS		Denver chs 2,4,6	1830 CHHT-3 NS
5	1200	KATC-3 LA			excellent, also	unID 2-5 FF
	1230	WPBT-2 FL			south Florida in	
		WTWJ-4 FL	7	2002	CHSJ-4 NB	
	1300	WHRZ-2 LA			CHHT-3 NS	
					August	
				5 Es	1920	KOMO-5 MO
						KDUR-4 NB

"Much work seems to limit my time so very drastically--I never seem to have time to enjoy DXing anymore...no DX on UHF. The damn dial is so full of NTV stations, Global, and French 'test patterns & garbage' I have no interest in trying to decipher it."

Jeff Wolf 1131 University Blvd W. Apt. 701 Silver Spring, Maryland 20902 (EDT)

June	5 Es	1900	KPKK-3 TX	27 Es	2035	WHRZ-2 LA	950	24 Tr	1030	WAVY-10 VA	160
			Wichita Falls 1183	28	2037	Cuba 3				WSET-13 VA	167
6	1630	KUSD-2 SD			1100	WHRZ-2 LA				"under WJZ"	
		Vermillion 1050			1128	KATC-3 LA	1000			"Great tropo open-	
	1658	KTCQ-2 NH	867		1230	WRNL-3 GA?	T			ing; one of the	
	1705	WHRZ-2 IL			1311	KCKT-2 KS?	T			best I've seen."	
		Chicago 567			1330	KTCQ-2 NH	867			2238	unID-69 NBC
12	1128	WPAY-2 WI?	T		1401	KTNW-2 OK	1000			2244	WVEC-13 VA
14	1300	KARD-3 KS	30		1632	unID-3 testing				2300	WTAR-3 VA
		Wichita 1050	31		2000	KCKT-2 KS	1100				WWBT-12 VA
20	1200	WMT-2 IA			1129	KFDX-3 TX	1183			2306	unID-12 ABC
		Cedar Rapids 750			1900	KFTV-3 NE					"over WWBT"
21	1300	KFTV-3 NE			1930	KCKT-2 KS		25		2340	WAVY-10 VA
		Omaha 950			August					0805	WHAG-25 MD
24	2002	Cuba 2			5 Es	1330	KTNW-2 OK	1000		0809	WTAR-29 PA
27	1400	KIII-3 TX				WHRZ-2 LA					WVIR-29 VA
		Corpus Christi 1317			1730	WPBT-2 FL?	T				WCFB-28 MD
July	7 Es	1600	KFTV-3 NE?	T	1930	WMT-2 IA?	T				WHDU-28 NC
17 Tr	0930	WVYA-13 VA		October						0617	WAVY-10 VA
		Lynchburg 167		23 Tr	2300	WWBT-12 VA	110			0623	WUNK-25 NC?
26 Es	1200	KLNB-3 NE	1133	24	0030	WYAH-27 VA	158				"slide looks like
	1930	KTCQ-2 NH	867		0118	WCTY-12 NC	269				"WUNC Network"
		"many unIDs			0800	WSET-13 VA	167			0904	WHRZ-15 VA
		on this date"				WYII-12 NC				0920	WCVW-57 VA
27	1130	WPBT-2 FL	900			Winston-Salem	268			0921	WNJB-58 NJ?
	1630	KFDX-3 TX?	T		0830	WHDU-28 NC	235				WUNC-58 NC?
	1909	KTBG-3 LA	983		0850	WHAG-25 MD?	T			0928	WCVB-23 VA
	1926	WLBZ-3 MS?	T		0854	WUNK-25 NC?	T			0930	WNJT-52 NJ?
	1931	Cuba 3			0905	WVIR-29 VA	107			1030	WHYY-12 DE
	2000	WPBT-2 FL	900		1000	WTVB-11 NC	235			1033	WKBS-48 PA
	2016	KATC-3 LA	1000		1030	WWBT-12 VA	110			1048	WNJS-23 NJ
						WTAR-3 VA?	T			1100	WWBT-12 VA

"This is my first report. I DX on a 1969 12" Westinghouse B/W and a 1971 19" GE color set...I use a wire as the antenna. For the GE's antenna I use the set's built-in rabbit ears and a partial hook-up to the apartment building's master antenna. In my report the mileages are approximate."

William J. Drasb Ellis St. R.R.#2 Keweenaw, Wisconsin 54216 (CDF/CST)

September		4 Tr 0730		26 Tr 1235	
21 (continued)		KINL-30 MO 432		1235 KCPT-19 MO 525	
Tr 2015	WKEB-53 KY 530	WTIU-30 IL 376		1251 KMBG-14 IA 463	
2053	WHMT-19 AL 685	WBAK-38 IN 348		KSIN-27 IA 463	
2059	WFUR-48 AL 685	WVUT-22 IN 405		KHNE-29 NE 617	
	WCET-48 OH 400	"snow free o/WSHT"		1257 KOZK-21 MO 588	
	WKIX-19 OH 400	0750 WAAV-31 AL? T		KMTC-27 MO 588	
2102	WPBO-42 OH 461	2110 WCPC-38 IL		1715 WUSI-16 IL 402	
	WHIQ-25 AL 685	"over WHEB-38 with		2025 WVUT-22 IN 405	
	WAKC-21 NC? T	no antenna snowfree"		2031 KTCI-17 MN 280	
2130	WATJ-36 GA? T	1920 KHIN-36 IA 457		"snow free"	
	WEAB-46 GA? T	2053 KINL-30 MO 432		2035 KAVT-15 MN 288	
	WTCG-17 GA? T	1852 KINL-30 MO 432		2120 WFLB-14 IN 420	
	WCLP-18 GA? T	2123 WMUL-33 WV 498		WHHT-25 IN 420	
2214	WFLB-14 IN 420	1735 KINL-30 MO 432		WWTU-30 IL 376	
2255	WEMA-40 AL 762	1738 WMUL-33 WV 498		2323 WUTV-29 NY 445	
2300	WFLQ-36 AL	1753 WKPI-22 KY 554		0653 KINL-30 MO 432	
	Florence 675	1709 KINL-30 MO 432		WFLB-14 IN 420	
2305	WVUT-22 IN 405	1845 WUTV-29 NY 445		WHHT-25 IN 420	
2310	WEMG-42 AL 768	Youngstown U's		W39AA-39 IN 268	
2322	WAPT-16 MS 866	WJET-24 PA 405		0713 WLKY-32 KY 437	
1909	WKPI-22 KY 554	WQLW-54 PA 405		0722 KHIN-36 IA 457	
1934	WKSO-29 KY 538	1900 GIGA-19 OH 410		0737 WKMU-21 KY 551	
	WKHA-35 KY 551	GELP-25 OH 410		"snow free"	
	WUTV-29 NY 445	1912 OREG-22-22 OH 413		0748 WVUT-22 IN 405	
23	0713 WLKY-32 KY 432	1920 WHIZ-18 OH 400		WWTU-30 IL 376	
	WKYT-27 KY 473	2008 WPGH-53 PA 480		WEMA-35 KY 499	
	WKHA-35 KY 551	2011 WQEX-16 PA 480		0815 KPOB-15 MO? T	
0720	WCLB-46 KY 473	2017 WUSI-16 IL 402		1220 WUSI-16 IL 402	
	WDRB-41 KY 437	2020 WVUT-22 IN 405		1757 KTSB-27 KS 560	
1834	WMUL-33 KY 498	2035 KMTC-27 MO 588		1855 WKPC-15 KY 437	
	WKAS-25 KY 486	0456 CENC-7 OH 270		0611 WHHT-25 IN 420	
	KINL-30 MO 432	WJKN-8 OH 355		0713 WFLB-14 IN 420	
1841	WKPI-22 KY 554	CKCO-13 OH 345		1824 KINL-30 MO 432	
	WHIZ-18 OH 400	0511 CENC-9 OH 350		KHIN-36 IA 457	
	WOSU-34 OH 395	0514 CHPT-42 OH 270		WDRB-41 KY 437	
1954	WKPC-15 KY 437	1902 KINL-30 MO 432		WLKY-32 KY 437	
2004	WANG-21 NC? T	1820 KINL-30 MO 432		Erie U's 405	
2140	WDCA-20 DC? T	2140 Toronto U's		0524 WHO-13 IA 371	
	WGSP-50 DC? T	WJET-24 PA 405		0530 KPLR-11 MO? T	
27	2108 KINL-30 MO 432	WQLW-54? T		WHIO-7 OH? T	
	2139 WKYT-27 KY 473	0543 WUAB-43 PA 340		0544 WENS-10 OH 395	
	2142 WLKY-32 KY 437	WJKN-27 OH 340		WBR-10 TN 626	
	2145 WKSO-29 KY? T	WJET-24 PA 405		WCPO-9 OH 400	
	WKHA-35 KY? T	0550 WPGH-53 PA 480		0548 WHAS-11 KY 437	
2154	WMUL-33 WV 498	WAKR-23 OH 380		0549 KFVS-12 MO 512	
2157	WKAS-25 KY? T	0553 WPMJ-21 OH 420		0550 WTHI-10 IN 348	
28	1924 KHIN-36 IA 457	0555 WYTV-22 OH 420		0613 WLKY-18 KY 473	
1944	WKPI-22 KY 554	WSKB-35 PA 405		WLKY-32 KY 437	
	WLKY-32 KY 437	1955 WKYT-27 OH 473		WDRB-41 KY 437	
2213	WKPC-15 KY 437	WCLB-46 KY 473		0617 WBAK-38 IN 348	
2018	WUTV-29 NY 445	2020 WLKY-32 KY 437		0619 KINL-30 MO 432	
October		WDRB-41 KY 437		0816 WPMJ-21 OH 420	
2 Tr 1827	WKPI-22 KY 554	1844 KINL-30 MO 432		WKBN-27 OH 420	
1830	WKSO-29 KY? T	WKYT-27 KY 473		WJET-24 PA 405	
	WKHA-35 KY? T	1918 GIGA-19 OH 410		1845 WUSI-16 IL 402	
1833	WLKY-32 KY 437	CHPT-25 OH 410		WKPC-15 KY 437	
	WDRB-41 KY 437	KINL-30 MO 432		WKYT-27 KY 473	
	WMUL-33 WV 498	WLKY-32 KY 437		1900 WOSU-34 OH 395	
1857	WKBN-27 OH 420	WDRB-41 KY 437		1910 KHIN-36 IA 457	
1902	KINL-30 MO 432	WCLB-46 KY 473		1914 WAAV-31 AL 685	
1929	KINL-30 MO 432	WKYT-27 KY 473		1920 WXXI-19 OH 400	
2037	WKAS-25 KY 486	WKSO-29 KY 538		WKON-52 KY 437	
1956	WKYT-27 KY 473	1935 WNPB-16 NY? T		0521 WKBN-27 OH 420	
	WCLB-46 KY 473	2211 KHIN-36 IA 457		0751 Erie U's 405	
4	0700 WFLB-14 IN 420	0650 KHIN-36 IA 457		KINL-30 MO 432	
	WHHT-25 IN 420	1235 KINL-30 MO 432			
	WLKY-32 KY 437	KCBJ-17 MO 450			
	WDRB-41 KY 437	KEMA-41 MO 525			

Donald E. Ruland 4448 68th Place Kenosha, Wisconsin 53142 (CDT)					
September			25 Tr 0615 WKYT-27 KY 360	27 Tr 0530 KIML-30 MO 300	
25 Tr 0530	WCPO-9 OH 300	0700 W63AH-63 OH		WIKY-32 KY 330	
	WCRC-12 OH 300	Maplewood 250		WUAB-43 OH 330	
	WHAS-11 KY 330	(WPTD-16 xltr)		WAKR-23 OH 340	
	WHNS-10 OH 320	WKLB-46 KY 360		CIOCB-28 OH 400	
0545	WYIX-19 OH 300	WTVQ-62 KY 360		WSEB-35 PA 400	
	WHIZ-18 OH 360	WKOH-52 KY 330		WKEN-27 OH 380	
	WLAX-18 KY 360	WCVN-54 KY 310		WTTV-33 OH 380	
0600	W6TAJ-67 MI	WKWJ-68 KY 330		WFFB-14 IN 320	
	Ann Arbor 220	0715 WKHH-27 OH 380		WVIZ-25 OH 330	
	(WJIM-6 xltr)	WVIZ-25 OH 330		0655 WJBT-24 PA 400	
	WIKY-32 KY 330	0730 WGBT-48 OH 300		WOSU-34 OH 320	
	WDRB-41 KY 330			0520 WCML-6 MI 280	
	WUAB-43 OH 330	October		0535 WJBT-24 PA 400	
	WAKR-23 OH 340	26 Tr 2200 WUAB-43 OH 330	31	0600 Youngstown U's	
	OSLPT-24 OH 340	2300 WJBT-24 PA 400		WAKR-23 OH 340	
0615	CIOCB-28 OH 340	0530 WKOH-52 KY 330		WVIZ-25 OH 330	
	KPLR-11 MO 300	27 0530 CIOCB-28 OH 340			

Bill Johnson 5595 Clarendon Hills Road Clarendon Hills, Illinois 60514 (CDT)					
July			26 Tr 1900 QEOS-3 SE 1000	28 Tr 0155 WHEX-13 IL 80	
19 Tr 2325	XIIN-12 IA 180	1915 WEDU-3 FL 1025	31	0746 WOC-6 IA 160	
26 Tr 1800	KDUB-4 MO 700	27 Tr 1830 WZLW-13 MI 120		0800 WTHR-23 IN 180	
	1830 KOTA-3 SD 760	Es 2100 WEDU-3 FL 1025		0830 WBBF-4 IL 150	
	1930 KYW-3 PA 680	28 0150 WISN-12 WI 80		Es 1741 KMOL-4 TX 1050	

Equipment includes 1968 8 1/2" Singer TV with whip antenna.

Bob Lent 1835 Fruit Street Huntington, Indiana 46750 (EST)					
October			10 Tr 2100 WOUB-20 OH 205	27 Tr 1800 WESO-29 KY 275	
10 Tr 1730	WKPT-19 TN 350	17 Es 2205 unID-2 W.		WQMR-38 KY 215	
	WSVN-47 VA 325	"suspect KWGN"		WQGB-53 KY 280	
	WESO-29 KY 275	20 Tr 1900 KRIN-32 IA 375	29	0700 WKPT-19 TN 350	
	WQMR-38 KY 215	26 2000 KRIN-32 IA 375	30	1305 KRIN-32 IA 375	
	WKAS-25 KY 230	2200 KDUB-40 IA 295		WKOW-27 WI 255	
2005	WTVX-26 TN	WHLA-31 WI 360		2130 Erie U's 295	
	Knoxville 360	Madison U's		London U's 260	
2040	WQYN-57 KY 275	2205 WQOW-19 WI 360		Oil Springs U's	
	WKEA-35 KY 275	2207 KIML-30 MO 305		CIOCB-28 OH 300	
2100	unID-66 S.S.B.	KBTC-9 MO 305		2154 WICU-12 PA	
	"KET network"	KPLR-11 MO 305		Erie 295	
	WOUG-44 OH 215	27 1800 WESO-29 KY 275		2158 CFFL-10 OH 260	
				2200 CMLT-176 OH 300	

Jim Gould R.R.#3 Kokomo, Indiana 46901 (317)452-9585 (EST)					
October			10 Tr 2100 WFIQ-36 AL 405	26 Tr 1900 unID-11 CBS W.	
5 Tr 2300	KRMA-41 MO 458	"@2100, no trace		ø offset	
	2305 W49AA-49 IL	of WAAV-31 AL"		2225 K???-33 IA	
10	1800 WAAV-31 AL 410	2120 WSRB-43 PA 492		Ottumwa 327	
	1900 WKKU-13 KY 252	2135 WBBF-45 MD? T		2235 WHLA-31 WI 339	
	WQHC-26 IA? T	"weird opening!"	27	2200 KHIN-36 IA 473	
	"under WCIU"	18 Es 1130 KPRC-2 TX 920	28 Es	1100 unID-4 NBC S.W.	
	WIIQ-41 AL? T	1200 KTVR-2 CO 990		1200 KDFW-4 TX 825	
	"under WOHQ"	26 1815 KTYC-10 MN 396		KXAS-5 TX 825	
2020	KIAA-14 IA 650	KYIN-24 IA 402	29 Tr	0940 WAAV-31 AL 410	
2040	WATL-36 GA? T	1823 KMEG-14 IA 540		1124 WBMG-42 AL 490	

Paul L. Gaines 15920 Puritan Street Detroit, Michigan 48227 (EDT/EST)					
October			26 Tr 2313 WREX-13 IL 300	27 Tr 0859 KDUB-40 IA 375	
11 Tr 0016	WIKY-32 KY 310	2320 KDUB-40 IA		0910 KIML-30 MO 450	
	0033 WDRB-41 KY 310	Dubuque 375		0915 WILL-12 IL 305	
	0219 WQWK-13 WV 280	0104 WIGS-20 IL 375		0942 WICD-15 IL 305	
MS 0305	WNL-4 LA 940	0142 KCRG-9 IA 415		0944 WAND-17 IL 340	
26 Tr 2213	WAND-17 IL 340	0232 WQAD-8 IL 375		0958 WPRE-38 WI 275	
	2216 WILL-12 IL 305	0336 WLUK-11 WI 275		1014 W9AA-39 IN 130	
	2223 WAGD-31 IL 345	0337 WTTW-11 IL		1019 WBAK-38 IN 290	
	2224 WRAU-19 IL 345	Chicago 225			
	2228 WIFR-23 IL 325	0842 Madison U's	November		
	2235 Madison U's	08504 Freeport-	4 Tr 2238	WFOV-17 IL 300	
	2253 WTVQ-17 IL 300	Rockford, Peoria U's	5	0005 Madison U's	
				0028 WIFR-23 IL 325	
				0044 KDUB-40 IA 375	

Paul D. Traska 64 Weaver Avenue Buffalo, New York 14206 (EDT/EST)

September		October		November	
21 Tr	1645 WPHL-17 PA	23 Tr	0055 W6AD-66 NY	27 Tr	0035 WTVO-17 IL
	1700 WJAN-17 OH		Hornell		WHMP-46 IN
	(local WNEO off the air)		(WSKG-46 xltr)	0100	WMBD-31 IL
	1705 WQEX-16 PA	11 Tr	0032 WKLY-32 KY	0903	WRAU-19 IL
	1710 WRTA-26 DC	20	2114 W6JAB-63 PA	0905	WEYI-25 MI
	1715 WSHA-43 PA		(WVIA-44 xltr)	0908	WOSU-34 OH
	1720 WITF-33 PA	26	2130 WICD-15 IL		WCFB-57 NY
	1725 WSKG-46 NY		2230 WUHQ-41 MI	1308	W33AB-33 NY
	1745 WLYB-15 PA		WKAR-23 MI		Utica
	Harrisburg U's		2237 WFLD-32 IL		(WJNY-24 xltr)
22	0030 WNPI-18 NY		2239 WQVC-35 MI	30	2240 WKAR-23 MI
	WNPE-16 NY		2240 WSES-44 IL		WUHQ-41 MI
	1600 WNET-17 NY	27	0000 WHA-21 NY	2243	WQFC-38 IL
	(WNEO off a/c)		WKOW-27 WI		
23	0025 W6AD-60 NY		0008 WCKE-23 IL		
	(WSKG-46 xltr)		0035 WNDU-16 IN		

Present log total: 474

**Editor's Note:** The January 1978 special Tenth Anniversary Issue promises to be well worth waiting for—after all, it was ten years in the making! EASTERN TV-DX will return in February with any reports that come in between now and the next deadline. Here's wishing everyone a DXful New Year!

# TIPS FOR TV-DXERS

Morris S. Goldman  
5815 N. Christians  
Chicago, IL 60659

If you use a UHF converter and find that an image (a local station appearing on anything but its assigned or harmonic channel) is always blocking out one channel for DX try switching your VHF tuner to a different channel (from 6 to 5 or 4) and retune your converter. The UHF dial calibration will not be accurate, but in most cases the image will have moved up or down to another channel, leaving your problem channel clear for DX.

Forcing yourself to get up early for meteor scatter DX can have some excellent and unexpected side effects. It is not uncommon, especially in the spring and fall, to rise early looking for MS and find an excellent tropo opening. And believe it or not, on occasion E-skip may also show up at 5 or 6 in the morning! The incentives for DXing before your locals air are strong indeed with so many stations running test patterns or ID slides, DXing can be a great deal more enjoyable. And don't forget the meteor scatter!

When a strong early-evening Es opening seems to die before 2200, watch closely for a possible return between 2230 and midnight. DXers in the east and mid-west should look especially to the west for the return, likewise westerners should watch the east.

Auroral DX is certainly one of the most exotic forms of DX and unfortunately, one of the most ignored. Next year it will appear on numerous occasions for DXers in the Northern US and Canada. Many DXers are so used to seeing only a auroral flutter and no IDs that they discard any hope of an auroral opening. However, auroral DX does occur, as many FM DXers will testify. Some years ago a ham in Greenland watched the evening news from channel 11 in Copenhagen. Distances propagated can be quite long and intense openings affect high band channels as well. Keep alert for sudden changes. Five minutes of activity may produce 15 minutes of DX. Listen for audio signals to poke through when the video is still hazy. Aurora has also been known to help produce what seems to be off-season Es or aurora induced Es (AEs). So keep watching that flutter!

If you need a recent list of translator stations for your area, try the local library for a copy of TV FACTBOOK. The TVF translator list is arranged by states, and can be photocopied for a nominal sum. As many DXers are learning the high UHF channels hold many surprises!

73, Morris

# C.C.I. [UNIDENTIFIED DX]

Frank Aden, Jr.  
1535 NW Ithaca  
Bend OR 97701  
(503) 389-5488  
Deadline: 10th

DECEMBER 1977 CCI NOT TO APPEAR IN JANUARY!

WTFDA will be celebrating its 10th anniversary next month and a special VUD will be published which will not contain the regular columns. CCI will return in February.

## Unidentified TV DX

Jeff Wolf, 1131 University Blvd. W., Apt. 701, Silver Spring MD 20902 (1977 unIDs)  
Tue Jul 26 Es ch 2 1930 EDT- Audio of "Mary Tyler Moore Show" beginning under KTCA.  
(WBAY checks, ---FEA)

ch 2 1958 EDT- End of "Mary Tyler Moore Show" with TV 2 News Promo,  
**WBAY-TV/2** "Chuck Ramsay, News, 6 and 10." (Probably WBAY, ---FEA)

Robert Williams, 251 6th Ave. E., Twin Falls ID 83301 (1977 unIDs)

Thu Jun 9 Es ch 5 1158 MDT- Ending of "Sesame Street" KPFR? CJFB? CKCK in at 1200.  
(CKX, CJFB, CKRI all check. ---FEA)

ch 3 1222 MDT- "Teleforum Sports" CKOS? (Nothing listed for SK, Alt and ND. ---FEA)

ch 2 1255 MDT- "Newservice Sports", logo seen with a newsmen on right.  
CKCK? CKSA?

Fri Jun 10 Es ch 3 1333 MDT- Tornado Watch in progress. Slide seen with "Tornado"  
above "Watch" with drawing of a tornado at bottom.  
**KORK-TV\***  
**3**  
LAS VEGAS

ch 3 1958 MDT- "TV-3" and then "Gunsmoke". XHBC in at 1949. (KORK checks. ---FEA)

ch 2 2023 MDT- Slide with "2LA". KNXT? (That is it. ---FEA)

Sat Jun 11 Es ch 3 1701 MDT- "Lawrence Welk Show" KFDX in at 1745. (KFDX checks. ---FEA)

ch 2 2040 MDT- "Billy Graham Carolina Crusade", PTA: Alt., SK,

Sun Jun 12 Es ch 4 1609 MDT- "Sergeant Bilko" KDFW? All TX 4s and KTVY are negative.  
---FEA)

ch 4 1620 MDT- Program about painting or art. PTA: TX. (TX stations are negative. ---FEA)

ch 2 1853 MDT- Classical music program. KFSM in at 1800. (KETS checks. ---FEA)

Wed Jun 12 Es ch 2 1125 MDT- "Gong Show" KOAI? KTVK in at 1200. (KOAI checks. ---FEA)

Roy D. Horsley, Rt. 10, 169 Lakeshore Dr., Gadsden AL 35901 (1977 unIDs)

Thu Jun 2 Es ch 4 1130 CDT- "Hollywood Squares". PTA: NE US. (CHET-5 checks. ---FEA)

Mon Jun 6 Es ch 2 1630 CDT- "Star Trek" PTA: NE US. (WLBZ checks. ---FEA)

ch 3 1630 CDT- "Dinah" PTA: As above. (WFSB checks. ---FEA)

ch 3 1630 CDT- Country music type show. Under above. (Nothing listed for the area. ---FEA)

ch 3 1630 CDT- "Gunsmoke". (WCAX checks. ---FEA)

ch 2 1630 CDT- "Adam 12". (CKGN-2 checks. ---FEA)

ch 5 1815 CDT- "Brady Bunch" (WNEU checks. ---FEA)

ch 2 1845 CDT- "Muppets" (CHIT checks. ---FEA)

ch 5 1920 CDT- "Billy Graham Tennessee Crusade" PTA: As above.

ch 3 1859 CDT- "Let's Make a Deal" (Nothing checks in the area. ---FEA)

ch 4 1930 CDT- Local game show. PTA: SD, ND.

Tue Jun 21 Es ch 2 0930 CDT- Religious Service. Phone 416-9.... Detroit and Ottawa mentioned. (Nothing listed but 416 is area near Lake Erie and Ontario in Ontario. ---FEA)

ch 4 1045 CDT- "Behind the Scene" Canadian produced show. (Nothing listed in E. Canada. ---FEA)

ch 3 1100 CDT- "Bewitched" (Nothing listed in area. ---FEA)

ch 5 1225 CDT- Weight loss program. KDAL and KWCN seen.

ch 2 1900 CDT- Newscast with Robbie Timmons.

ch 2 1910 CDT- "Barney Miller"

Wed Jun 22 Es ch 2 0825 CDT- "To Tell the Truth" PTA: North Central US and Canada.

ch 2 0830 CDT- CB with digital time in right corner.

ch 2 0835 CDT- Religious program.

ch 3 0835 CDT- "This Morning"

ch 4 1000 CDT- ID as "channel 6, cable channel 2, CBC". (this is CBWT-2. ---FEA)

**WCAX-TV**



Roy D. Horsley continued.

Wed Jun 22 Es ch 3 1105 CDT- -"Bewitched" PTA: Central Canada. (Nothing checks, ---FEA)

Thu Jun 30 Es ch 2 1730 CDT- -"Gilligan's Island" PTA North Central US. Mention of Littlefield. (there is a Littlefield in N. Texas but nothing checks for any ch. 2. ---FEA)

ch 2 1855 CDT- -"2000 \$ Pyramid"

ch 3 1855 CDT- -"Hollywood Squares"

ch 2 1855 CDT- -"Adam 12"

ch 3 1950 CDT- -Ad for "Mike's Food Stores"

ch 4 2025 CDT- -Interviewing Jack Ramsey. Canadian show.

Fri Jul 1 Es ch 3 1640 CDT- -Clock ticking and news. Could this be TGV. Guatemala was mentioned.

ch 2 1800 CDT- -"Great Sports Legends"

Sun Jul 3 Es ch 3 1230 CDT- -Yankies vs. Tigers. **3N WKYC-TV NBC**

ch 3 1305 CDT- -Marx Brothers movie.

ch 2 2315 CDT- -"Mary Hartman". Canadian, also on 3.

Wed Jul 27 Es ch 5 2228 CDT- -"Eyewitness News with Mark Jones"

Thu Jul 28 Es ch 2 1200 CDT- -"Gong Show" also on 3. (WGR, WKYC check, ---FEA)

ch 2 1200 CDT- -"Tattle Tales" also on 3. (Nothing checks, ---FEA)

Mon Aug 8 Es ch 6 2215 CDT- -National Basketball game with Detroit Tigers Emblem. WJIM?

Fri Aug 12 Es ch 2 1810 CDT- -"Lucy" KGFE seen.

Sat Aug 13 Es ch 2 1230 CDT- -"Soul Train" PTA: NE, MO, IA. (Nothing checks for these areas. ---FEA)

ch 2 1855 CDT- -"I Dream of Jeannie" (Same results as above. ---FEA)

ch 3 1920 CDT- -"Lowell Thomas"

ch 4 2000 CDT- -"Roger Morrow Motors" KWGN seen.

#### Identifications

Steve West, June 8, KTDY is in Lafayette LA and WGMO is the new call for Shell Lake WI. July 6, WMRQ 92.1, Brookhaven MS. From Roger Winson.

Ron Wing, June 25, call letters are KDXT 93.3. From Roger Winson.

Tom Yingling, unID on June 24 is KLMT 96.7 Marlin TX. From Roger Winson.

Scott Levitt, Jun 12, ch. 6 was WBRC. From Roy Horsley.

Frank Wheeler, Sept., Could that be WMT with a Cedar Rapids -Iowa City ID? From Roy Horsley.

Mike Reid, June 20, PTL Club was seen on 7-4-77 on KWGN at 0115. They may run 700 Club after PTL. From Roy Horsley. (That could be possible as TV GUIDE does not list anything for KWGN after 0110.

Michael Scheel, Jun 21, WPTV runs 25,000 \$ Pyramid at 1900 EDT. July 1, WESH runs Celebrity Sweepstakes at 1930 EDT. From Roy Horsley.

Steve Shaffer, Oct. CCI. Station is WWTW ch. 9 Cadillac. They ID as TV 9 and 10" as WWTW has sat. WWUP in Sault Ste. Marie. The calls mentioned were inter-city relay stations such as KSR-56, KSX-42 etc. From Bill Draeb.

Volunteers are now needed to help organize the translator list for the 2nd Edition of the WFTDA STATION GUIDE. Help is also needed for the Latin America and Canada lists.

When reporting to CCI please include Possible Target Area (PTA) as it is almost impossible to do any research with some idea of where the unID might be.

HAPPY HOLIDAYS AND HAPPY NEW YEAR,

*Frank*

KIVI/Mamie-Babe Caldwell



# More WRTH Changes

Mike Dörner, Jr.  
1409 Hymelia Ave.  
Metairie, La. 70003

As promised, here is a line-by-line, page-by-page comparison of the 1976 and 1977 World Radio Television Handbooks. The reader is cautioned that the following listings depend upon the accuracy of the information, as well as its completeness, in both editions.

## NEW STATIONS

Austria	89.9	Vienna	100kw local
Belgium	99.9	Gent	10kw BRT-1
France	89.1	Aubusson	5kw Fr-Mus
	91.5	Briançon	50w Fr-Inter
	97.8	Briançon	50w Fr-Cult
	89.5	Briançon	50w Fr-Mus
	98.6	Brive	200w Fr-Inter
	93.6	Brive	200w Fr-Cult
	88.7	Brive	200w Fr-Mus
	92.6	Cannes	50w FIP
	97.5	Cerdagne	50w Fr-Inter
	99.6	Cerdagne	90w Fr-Cult
	93.8	Cerdagne	50w Fr-Mus
	91.1	Chalons/	
		Marne	50w FIP
	91.2	Etampes	15w Fr-Mus
	98.85	Forbach	50w FIP
	94.3	Gueret	5kw Fr-Inter
	98.8	Gueret	5kw Fr-Cult
	90.8	Gueret	5kw Fr-Mus
	89.6	Menton	50w Fr-Inter
	91.75	Menton	50w FIP
	98.5	Metz	50w FIP
	99.8	Modane	1w Fr-Inter
	88.8	Modane	1w Fr-Cult
	92.4	Modane	1w Fr-Mus
	95.2	Montpellier	5kw FIP
	92.7	Moutiers	50w Fr-Inter
	97.4	Moutiers	50w Fr-Cult
	90.7	Moutiers	50w Fr-Mus
	98.95	Nancy	1kw Fr-Cult
	97.4	Nice	200w Fr-Cult
	94.4	Nice	200w Fr-Mus
	95.7	Nice	90w FIP
	96.8	PtoVechio	1kw Fr-Inter
	90.8	PtoVechio	1kw Fr-Cult
	98.9	PtoVechio	1kw Fr-Mus
	95.1	Reims	50w FIP
	88.05	StEtienne	1kw Fr-Inter
	91.6	St Etienne	1kw Fr-Cult
	97.1	St Etienne	1kw Fr-Mus
	95.9	St Martin	100wFr-Inter
	93.7	St Martin	100wFr-Cult
	98.4	St Martin	100wFr-Mus
	98.5	Toulouse	250w FIP
	95.2	Tulle	15w Fr-Mus
	90.4	Frankfurt	0.5kw HessianR
	93.7	Kassel	0.5kw HessianR
	91.9	Rimberg	0.5kw HessianR
	97.2	Wiesbaden	0.5kw HessianR
	91.8	Visselhovede	5kw NDR-1
	95.9	Visselhovede	5kw NDR-2
	99.8	Bamberg	1.5kw BavarianR
	97.9	Tegernsee	300w BavarianR
			100.7 Wlm
			1kw U.S. APN

Germany, West

Great Britain	BBC: 26 new low-power relays
	97.0 Reading 1/2k Thames Valley Bc.
Holland	91.9 Eindhoven 1kw SROB
	100.7 Klein Brogel 50w APN
Hungary	68.72 Szentes 5k Magyar R-3
	72.2 Kabbegy 10k Pakpfi R.
Italy	RAI: 87 new low-power stations less than 1 kw.
	89.5 Colle Barbiano 12k I
	91.7 Colle Barbiano 12k II
	93.9 Colle Barbiano 12k III
Malta	97.8 750w BFBS
Monaco	93.5 Monte Carlo 50kw, Radio Monte Carlo
Norway	90.9 Mosvik 50kw NRK
Poland	67.46 Zgorzelec 15kw, Radio Warsaw-III
Portugal	95.2 Marao 5kw RDP-1
	97.6 Faro 5kw RDP-1
	88.0 Minhu 1kw RDP-2
	91.1 Bornes 5kw RDP-2
Romania	71.18 Topolog 4kw RTVRom-1
Spain	94.5 Linares Radio Linares
	89.1 Cordoba Radio Cordoba
	89.1 Asturias Radio Popular Asturias
	99.8 Loyola EAK66-Radio Popular Loyola
Sweden	87.6 Hudiksvall/Forsa-1 1kw
	90.2 Hudiksvall/Forsa-2 1kw
	93.8 Hudiksvall/Forsa-3 1kw
	plus 81 new low-power relays
Switzerland	one new low-power relay on the first German network
Yugoslavia	101.7 Deli Jovan 1 kw, net I
	103.5 Deli Jovan 1kw, net II
	both of Radio Ljubljana
	98.9 Papova Sapka 1kw, II of Radio Skopje.
	94.5 Bjelashnica 600w, II of Radio Sarajevo
	plus two new low-power relays in Vojvodina province.
	<b>Power Increases</b>
Finland	87.7 Eurajoki to 30kw
	88.9 Pyhavyori to 30kw
	92.0 Eurajoki to 30kw
France	93.2 Angers to 8kw Fr-Inter
	91.4 Angers to 8kw Fr-Cult
	97.4 Angers to 8kw Fr-Mus
	96.75 Bordeaux to 250w
	87.8 Paris to 100kw
	93.35 Paris to 180kw
	97.6 Paris to 100kw
	90.35 Paris to 12kw

Germany, West 89.5 Muhlacker to 510r,  
Sudfunk Net 2  
90.2 Lingen to 15k NDR-3  
93.6 Rifel to 8k WDR-2

Germany, East 96.65 Marlow to 100kw,  
Stimme DDR  
92.85 Karl Marx-Stadt  
to 100kw, Radio  
DDR net 2  
94.6 Brocken to 100kw,  
Radio DDR, net 2  
95.05 Berlin to 100kw,  
Stimme DDR  
91.7 Sonneberg to 100kw  
Radio Berlin  
89.8 Karl-Marx-Stadt  
to 100kw, R-Berlin

Great Britain 95.8 Chatham to 75kw  
Radio Merseyside

Holland 92.6 IJsselstein to 100k  
96.8 IJsselstein to 100k  
98.9 IJsselstein to 100k  
91.4 Markelo to 100k  
96.2 Markelo to 100k  
98.4 Markelo to 100k

Hungary 67.97 Pecs to 50k  
Magyar Radio -III  
67.19 Pecs to 50k  
Kossuth Radio  
70.43 Sopron to 30kw  
Kossuth Radio  
70.43 Tokaj to 50kw  
Magyar Radio-III  
71.33 Tokaj to 50kw  
Petofi Radio  
71.81 Pecs to 15kw  
Petofi Radio  
72.11 Tokaj to 50kw  
Kossuth Radio  
72.86 Sopron to 30kw  
Petofi Radio

Malta 88.3 BFBS to 750w  
90.7 BFBS to 4,000w

Norway 89.3 Vega to 33kw NRK

#### Power Decrease

France 91.8 Cherbourg to 50w FIP  
88.7 Nancy to 250w Fr-I  
90.6 Nantes to 50k  
94.2 Nantes to 50kw  
98.9 Nantes to 50kw  
95.7 Nantes to 2kw

Germany, West Feldberg/Schwarzwald:  
89.8 SWF-I to 1kw  
97.9 SWF-II to 1kw  
93.8 SWF-III to 1kw  
90.9 Wurzburg to 2 kw  
89.6 Berlin to 10k RIAS-1  
91.2 Hof to 10kw RIAS-2

Great Britain 95.1 Glasgow to 3.4kw  
Radio Clyde

Greece 92.2 to 3kw  
94.2 to 3x2

#### Frequency shifts

Finland Tammeila OYR-I 92.8 to 94.8

France Chambéry:  
Fr-Inter 99.0 to 93.5  
Fr-Cult 93.0 to 90.5  
Fr-Mus 89.9 to 98.6

Germany, West Hannover:  
NDR-2 95.9 to 96.2 3kw  
Gottingen:  
NDR-3 94.1 to 99.9  
Elietal:  
Saarlandischer Radio,  
98.0 to 98.3 mhz  
Muhlacker:  
Sudfunk Radio-1,  
92.9 to 97.0 mhz

Germany, East Berlin Radio,  
3-DDR 97.6 to 97.65

Hungary Miskolc: Magyar Radio-3,  
66.8 to 66.84 mhz 3kw  
Sopron: Kossuth Radio,  
70.4 to 70.43 mhz 30kw

Poland Wroclaw: Radio Warsaw-3,  
72.89 to 72.11 120kw

Spain Barcelona: Radio Juventud  
Barcelona 89.7 to 90.0  
La Coruna: Radio Juventud  
La Coruna 96.7 to 88.8  
Malaga: Radio Popular  
Malaga 89.4 to 97.0  
Marbella: Radio Costa del  
Sol, 87.6 to 88.0

Sweden Ennsboda-III 99.7 to 99.75  
Finnveden-I 90.1 to 90.15  
Helsingborg-3 98.6 to 98.65  
Mora-III 98.9 to 98.95  
Stanne-III 98.4 to 98.45  
Tasjo 89.1 to 89.15  
Orebo-III 99.5 to 99.55

#### Deleted stations

Bulgaria 70.22 St. Zagora - net III

Finland 94.3 Kajaani  
98.9 Kajaani  
94.3 Vuokatti  
98.9 Vuokatti

Germany, West 97.0 Sudfunk-3 3kw  
93.8 Saarburg SWF-2 5kw

Great Britain 97.0 London 0.3k R.Kennet

Norway 90.9 Steinkjer 12k NRK

Portugal 99.4 Lisbon CSB266 5kw  
91.31 Porto CSB84 3kw

Spain 89.7 Valencia, R. Valencia  
89.5 Vilbao, R. Bilbao  
89.4 Sabadell, R.J.Sabadell

Sweden 89.9 Tasjo 25kw net III

#### QTH changes

Bulgaria 67.58 change to; Bourgas  
66.02 change to; Bourgas  
67.76 change to; Blagoevgrad  
66.20 change to; Blagoevgrad  
66.98 change to; Blagoevgrad

#### Net changes

France: Forbach 90.7 is now France-Inter  
Nice 88.1 is now France-Inter  
Nimes 96.8 now FR3-Midi-Pyrenees  
Tours 98.7 is now Fr-Inter-Prov.

(TO BE CONTINUED IN THE FEBRUARY VUD.)



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